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1984-85

**Bulletin of North Carolina Agricultural and
Technical State University
Greensboro, N.C.**

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**BULLETIN OF NORTH CAROLINA AGRICULTURAL
AND TECHNICAL STATE UNIVERSITY**

Vol. 72, No. 1

July, 1984

BULLETIN OF NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY—Published monthly seven times a year except January, March, September, October, and November by North Carolina Agricultural and Technical State University, 1601 East Market Street, Greensboro, North Carolina 27411.

Application to Mail at Second Class Postage Rates at Greensboro, North Carolina.

Postmaster: Send Address Changes to BULLETIN OF NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY, 1601 East Market Street, Greensboro, North Carolina 27411-0002.

NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY

GREENSBORO

27411

(919) 379-7940



EDWARD B. FORT
Chancellor

TO: STUDENTS AND PROSPECTIVE STUDENTS

North Carolina Agricultural and Technical State University is a unique comprehensive state-supported University. It is the only comprehensive University in this State which has both a School of Engineering and a School of Agriculture—in consonance with its land-grant tradition. In addition, strong program offerings are provided in the Schools of Arts and Sciences, Business and Economics, Education and Nursing. Additionally, the Institution has a viable Graduate School. Consequently, matriculating students are provided unique and varied programmatic offerings.

The University has a distinguished faculty—one committed to excellence in teaching, research and public services. Moreover, its Alumni Association is one of the most active and productive alumni organizations in the State and Nation. Its support for the University and its mission has been exemplary.

This Catalogue provides specific information you will need to know about the University. However, a University is more than its program offerings, its faculty, its students, its alumni or its campus. A University can best be described as a spirit—*Aggie Spirit*. North Carolina Agricultural and Technical State University—the Institution—would be a barren place without the presence and spirit of its human resources.

AGGIE SPIRIT is an integral part of the Institution's heritage and tradition. It is depicted in the lives of both the Institution's Torchbearers as well as the outstanding men and women who left the University their legacy. The heritage and traditions of the University are evident in every facet of University life. When one combines this heritage with the quality of our faculty and the soundness of our mission related programs, one readily discerns the greatness of the campus.

I commend this spirit, these programs and this University to all students and prospective students.

Edward B. Fort
Chancellor

An Equal Opportunity/Affirmative Action Employer

A Constituent Institution of THE UNIVERSITY OF NORTH CAROLINA

Bulletin
of
NORTH CAROLINA
AGRICULTURAL AND TECHNICAL
STATE UNIVERSITY
GREENSBORO, NORTH CAROLINA
UNDERGRADUATE PROGRAMS
1984-85
NORTH CAROLINA AGRICULTURAL AND
TECHNICAL STATE UNIVERSITY
Greensboro

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1984

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UNIVERSITY CALENDAR 1984-85

FALL SEMESTER, 1984

August 17—Friday	Administrators' Conference
August 19—Sunday	Freshmen and Transfer Students Report
August 20—Monday	Faculty-Staff Conference
August 20-22—Monday-Wednesday	Orientation-Advisement of Freshmen and Transfer Students
August 23-25—Thursday-Saturday (noon)	Registration
August 27—Monday	Classes Begin
August 27—Monday	Late Registration Begins
September 3—Monday	Holiday (Labor Day)
September 4—Tuesday	Classes Resume at 7:00 a.m.
September 4—Tuesday	Late Registration Ends
September 4—Tuesday	Last Day to Add a Course
September 4—Tuesday	Last Day to Drop a Course and Receive Financial Credit
September 21—Friday	Last Day to Apply for Fall Semester Graduation
October 10—Wednesday	Fall Convocation
October 13—Saturday	Fall Break Begins at 12:00 noon
October 17—Wednesday	Fall Break Ends at 7:00 a.m.
October 19—Friday	Last Day to Drop a Course Without Grade Evaluation
November 5—Monday	Last Day Foreign Student Applications Accepted for Spring Semester Admission
November 8-9—Thursday-Friday	Preregistration for Spring Semester
November 21—Wednesday	Thanksgiving Holidays Begin at 1:00 p.m.
November 26—Monday	Thanksgiving Holidays End at 7:00 a.m.
November 28—Wednesday	Last Day to Withdraw From the University Without Grade Evaluation
December 3—Monday	Applications for Spring Semester Admission to University are Due
December 11—Tuesday	Classes End
December 12—Wednesday	Reading Day
December 13—Thursday	Final Examinations Begin
December 19—Wednesday	Final Examinations End
December 19—Wednesday	Fall Semester Ends, Christmas Holidays Begin
December 20—Thursday	Fall Grades are Due in the Office of Registration and Records by 3:00 p.m.

UNIVERSITY CALENDAR 1984-85

SPRING SEMESTER, 1985

January 3—Thursday	Faculty-Staff Report
January 3—Thursday	Freshmen and Transfer Students Report
January 4—Friday	Orientation-Advisement of Freshmen & Transfer Students
January 8-9—Tuesday-Wednesday	Registration
January 10—Thursday	Classes Begin
January 10—Thursday	Late Registration Begins
January 15—Tuesday	University Holiday (Martin L. King's Birthday)
January 17—Thursday	Late Registration Ends
January 17—Thursday	Last Day to Add a Course
January 17—Thursday	Last Day to Drop a Course and Receive Financial Credit
January 17—Thursday	Last Day to Apply for Graduation
March 2—Saturday	Spring Break Begins at 12:00 (noon)
March 11—Monday	Spring Break Ends at 7:00 a.m.
March 15—Friday	Last Day to Drop a Course Without Grade Evaluation
March 20—Wednesday	Spring Semester Convocation
April 8—Monday	Easter Holiday
April 11-12—Thursday-Friday	Preregistration for Fall Semester
April 19—Friday	Last Day to Withdraw From the University Without Grade Evaluation
April 23-25—Tuesday-Thursday	Final Examinations for Graduating Students
April 26—Friday	Grades Due at 2:00 p.m. in the Office of Registration and Records For Graduating Students
May 3—Friday	Classes End
May 5—Sunday	Commencement
May 6—Monday	Reading Day
May 7—Tuesday	Final Examinations Begin
May 13—Monday	Final Examinations End, Spring Semester Ends
May 15—Wednesday	All Grades are Due in the Office of Registration and Records by 10:00 a.m.
June 3—Monday	Applications for Fall Semester Admission to the University are Due



Section 1

General Information

North Carolina Agricultural and Technical State University

HISTORICAL STATEMENT

North Carolina Agricultural and Technical State University was established as the A. and M. College for the "Colored Race" by an act of the General Assembly of North Carolina ratified March 9, 1891. The act read in part:

That the leading object of the institution shall be to teach practical agriculture and the mechanic arts and such branches of learning as relate thereto, not excluding academical and classical instruction.

The College began operation during the school year of 1890-91, before the passage of the state law creating it. This curious circumstance arose out of the fact that the Morrill Act passed by Congress in 1890 earmarked the proportionate funds to be allocated in bi-racial school systems to the two races. The A. and M. College for the White Race was established by the State Legislature in 1889 and was ready to receive its share of funds provided by the Morrill Act in the Fall of 1890. Before the college could receive these funds, however, it was necessary to make provisions for Colored students. Accordingly, the Board of Trustees of the A. and M. College in Raleigh was empowered to make temporary arrangements for these students. A plan was worked out with Shaw University in Raleigh where the College operated as an annex to Shaw University during the years 1890-1891, 1891-1892, and 1892-1893.

The law of 1891 also provided that the College would be located in such city or town in the State as would make to the Board of Trustees a suitable proposition that would serve as an inducement for said location. A group of interested citizens in the city

of Greensboro donated fourteen acres of land for a site and \$11,000 to aid in constructing buildings. This amount was supplemented by an appropriation of \$2,500 from the General Assembly. The first building was completed in 1893 and the College opened in Greensboro during the fall of that year.

In 1915 the name of the institution was changed to The Agricultural and Technical College of North Carolina by an Act of the State Legislature.

The scope of the college program has been enlarged to take care of new demands. The General Assembly authorized the institution to grant the Master of Science degree in education and certain other fields in 1939. The first Master's degree was awarded in 1941. The School of Nursing was established by an Act of the State Legislature in 1953 and the first class was graduated in 1957.

The General Assembly repealed previous acts describing the purpose of the College in 1957, and redefined its purpose as follows:

"The primary purpose of the College shall be to teach the Agricultural and Technical Arts and Sciences and such branches of learning as related thereto; the training of teachers, supervisors, and administrators for the public schools of the State, including the preparation of such teachers, supervisors and administrators for the Master's degree. Such other programs of a professional or occupational nature may be offered as shall be approved by the North Carolina Board of Higher Education, consistent with the appropriations made therefor."

The General Assembly of North Carolina voted to elevate the College to the status of a Regional University effective July 1, 1967.

On October 30, 1971, the General Assembly ratified an Act to consolidate the Institutions of Higher Learning in North Carolina. Under the provisions of this Act, North Carolina Agricultural and Technical State University became a constituent institution of The University of North Carolina effective July 1, 1972.

Six presidents have served the Institution since it was founded in 1891. They are as follows: Dr. J. O. Crosby, (1892-1896), Dr. James B.

Dudley, (1896-1925), Dr. F. D. Bluford (1925-1955), Dr. Warmoth T. Gibbs (1956-1960), Dr. Samuel DeWitt Proctor, (1960-1964), and Dr. Lewis C. Dowdy, who was elected President April 10, 1964. Dr. Cleon F. Thompson, Jr., served as Interim Chancellor of the Institution from November 1, 1980 until August 31, 1981. Dr. Edward B. Fort assumed Chancellorship responsibilities on September 1, 1981.

PURPOSE AND OBJECTIVES OF THE UNIVERSITY

North Carolina Agricultural and Technical State University is one of the two land-grant institutions located in the State. It is a comprehensive University with an integrated faculty and student body offering degrees at the baccalaureate and master's levels.

The purpose of the University is to provide an intellectual setting where students in higher education may find a sense of identification, belonging, responsibility, and achievement that will prepare them for roles of leadership and service in the communities where they will live and work. In this sense, the University serves as a laboratory for the development of excellence in teaching, research and public service.

The program of the University focuses on the broad fields of agriculture, engineering, technology, business, education, nursing, the liberal arts and science.

The major objectives of the University as approved by the faculty in 1977 are as follows:

1. To help students to improve their communication skills
2. To assist students in developing their power of critical thinking
3. To aid students in developing self-confidence and a positive self-image
4. To assist students in developing indepth competence in at least one subject area
5. To insure adequate career preparation for students that will enable them to lead productive lives
6. To develop innovative instructional programs that will

meet the needs of a diverse student body

7. To develop and maintain undergraduate and graduate programs of high academic quality and excellence
8. To encourage research and other creative endeavors by the faculty and students
9. To identify and help to satisfy educational, cultural, and other public service needs in the service area of the University

POLICY GOVERNING PROGRAMS AND COURSE OFFERINGS

All provisions, regulations, degree programs, course listings, etc., in effect when this catalogue went to press are subject to revision by the appropriate governing bodies of North Carolina Agricultural and Technical State University. Such changes will not affect the graduation requirements of students who enroll under the provisions of the catalogue.

NONDISCRIMINATION POLICY AND INTEGRATION STATEMENT

NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY is committed to equality of educational opportunity and does not discriminate against applicants, students, or employees based on race, color, national origin, religion, sex, age, or handicap. Moreover, NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY is open to people of all races and actively seeks to promote racial integration by recruiting and enrolling a larger number of white students.

NORTH CAROLINA A & T STATE UNIVERSITY supports the protections available to members of its community under all applicable Federal laws, including Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Sections 799A and 845 of the Public Health Service Act, the Equal Pay and Age Discrimination Acts, the Rehabilitation Act of 1973, and Executive Order 11246.

THE UNIVERSITY OF NORTH CAROLINA

The University of North Carolina is comprised of all the public institutions of higher education in North Carolina that confer degrees at the baccalaureate level or higher. The University was authorized by the State Constitution in 1776, and it was chartered in 1789 by the General Assembly.

The University of North Carolina opened its doors to students at Chapel Hill in 1795. Thereafter, beginning in the latter part of the nineteenth century, the General Assembly of North Carolina has established and supported fifteen other public senior institutions in keeping with Article IX, Section 8, of the Constitution of North Carolina which provides that the "General Assembly shall maintain a public system of higher education, comprising The University of North Carolina and such other institutions of higher education as the General Assembly may deem wise."

By 1969, The University of North Carolina included six constituent institutions, governed by a single Board of Trustees. This multi-campus University had its beginnings in legislation enacted in 1931 that defined The University of North Carolina to include the University of North Carolina at Chapel Hill, North Carolina State University at Raleigh, and The University of North Carolina at Greensboro. In the 1960's three additional campuses were added: The University of North Carolina at Charlotte, The University of North Carolina at Asheville, and The University of North Carolina at Wilmington.

Beginning in 1877, the General Assembly of North Carolina established or acquired ten additional separately governed state-supported senior institutions of higher education. They are: Appalachian State University, East Carolina University, Elizabeth City State University, Fayetteville State University, North Carolina Agricultural and Technical State University, North Carolina Central University, North Carolina School of the Arts, Pembroke State University, Western Carolina University, and Winston-Salem State University. Then, in 1971, the General Assembly redefined The University of North Carolina, and under the terms

of that legislation all sixteen public senior institutions became constituent institutions of The University of North Carolina.

The constitutionally authorized Board of Trustees of the six-campus University of North Carolina was designated the Board of Governors and this body is by law The University of North Carolina. The Board of Governors consists of thirty-two members elected by the General Assembly and it is charged with "the general determination, control, supervision, management, and governance of all affairs of the constituent institutions." The chief executive officer of The University is the President.

Each constituent institution of The University has its own faculty and student body. The chief administrative officer of each institution is the chancellor, and the chancellors are responsible to the President.

Each constituent institution also has a board of trustees composed of thirteen members: eight elected by the Board of Governors, four appointed by the Governor, and the elected president of the student body *ex officio*. (The School of the Arts has two additional *ex officio* trustees.) The principal powers of these institutional boards are exercised under a delegation of authority from the Board of Governors.

ORGANIZATION OF THE UNIVERSITY

Board of Governors
The University of North Carolina

John R. Jordan, Jr.
Chairman
Mrs. Julia T. Morton
Vice Chairman
Louis T. Randolph
Secretary

Class of 1985

Furman P. Bodenheimer
Laurence A. Cobb
John Edwin Davenport
Charles Z. Flack, Jr.
James E. Holmes
Reginald F. McCoy
Mrs. John F. McNair, III
Maceo A. Sloan

Class of 1987

B. Irvin Boyle
Mrs. Robert H. Bullock
William A. Dees, Jr.
Jacob H. Froelich, Jr.
James E. Holshouser, Jr.
William A. Johnson
Robert L. Jones
E. B. Turner
Class of 1989

Mrs. Geneva J. Bowe
Philip G. Carson
Walter R. Davis
R. Phillip Haire
Julia T. Morton
Asa T. Spaulding, Jr.
David J. Whichard, II
William K. Woltz

Class of 1991

Irwin Belk
Wayne A. Corpening
J. Earl Danieleley
Mrs. Stranley H. Fox
John R. Jordan, Jr.
Samuel H. Poole
J. Aaron Prevost
Louis T. Randolph

THE UNIVERSITY OF NORTH CAROLINA

OFFICERS OF ADMINISTRATION (Sixteen Constituent Institutions)

WILLIAM C. FRIDAY,
B.S., LL.B., LL.D., D.C.L.,
President
ROY CARROLL,
B.A., M.A., Ph.D.,
Vice President-Planning
RAYMOND H. DAWSON,
B.A., M.A., Ph.D.,
Vice President-Academic Affairs
EDGAR WALTON JONES,
B.S., M.S., Ph.D.,
*Vice President-Research and Public
Service*
L. FELIX JOYNER,
A.B.,
Vice President-Finance
CLEON F. THOMPSON, JR.,
B.S., M.S., Ph.D.,
*Vice President-Student Services and
Special Programs*
JOHN P. KENNEDY, JR.,
S.B., B.A., M.A., J.D.,
Secretary of the University
TRUDY ATKINS,
A.B., M.F.A.,
*Assistant to the President for
Public Information*
GARY T. BARNES,
B.A., Ph.D.,
Associate Vice President-Planning
HUGH S. BUCHANAN, JR.,
B.A.,
Associate Vice President-Finance

JOHN F. COREY,
B.S., M.A., Ed.D.,
*Associate Vice President-Student Services
and Special Programs*
JOHN W. DUNLOP,
B.A.,
*Director, The University of North Carolina
Center for Public Television*
DAVID N. EDWARDS, JR.,
B.A., J.D.,
Special Assistant to the President
KENNIS R. GROGAN,
B.S., M.B.A.,
Associate Vice President-Finance
ELLEN H. KEPLEY,
Associate Vice President-Finance
ARNOLD K. KING,
A.B., A.M., Ph.D.,
Assistant to the President
PAUL B. MARION, JR.,
B.A., M.A., Ph.D.,
*Associate Vice President-Student
Services and Special Programs*
R. D. McMILLAN, JR.,
B.S.,
*Assistant to the President for
Governmental Affairs*
JEFFREY H. ORLEANS,
B.A., J.D.,
Special Assistant to the President
ARTHUR PADILLA,
B.S., M.A., Ph.D.,
*Associate Vice President-Academic
Affairs*
RICHARD H. ROBINSON, JR.,
A.B., LL.B.,
Assistant to the President
DONALD J. STEDMAN,
B.A., M.A., Ph.D.,
*Associate Vice President-Academic
Affairs*
ROBERT W. WILLIAMS, JR.,
A.B., M.A., Ph.D.,
*Associate Vice President-Academic
Affairs*

GOVERNANCE OF NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY

North Carolina Agricultural and Technical State University is a constituent institution of The University of North Carolina. It functions under the jurisdiction of a thirty-two member Board of Governors of The University of North Carolina elected by the General Assembly of North Carolina. Policies of the Board of Governors are administered by the President of the University and his staff. They constitute the General Administration and are located in Chapel Hill.

The Board of Trustees of North Carolina Agricultural and Technical State University consists of thirteen

members. Eight members are appointed by the Board of Governors, four are appointed by the Governor of the State, and the President of the Student Government Association serves as an ex officio member. The Board of Trustees received its authority by delegation from the Board of Governors.

The Chancellor is the chief administrative officer of the University.

The University Senate and The University Council are the principal policy recommending bodies of the institution.

NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY

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Chancellor Emeritus
WARMOTH T. GIBBS,
A.B., Ed.D., LL.D.,
President Emeritus

LOCATION

North Carolina Agricultural and Technical State University is located in the City of Greensboro, North Carolina. This city is 300 miles south of Washington, D.C. and 349 miles north of Atlanta. It is readily accessible by air, bus and automobile.

The city offers a variety of cultural activities and recreational facilities. These include athletic events, concerts, bowling, boating, fishing, tennis, golf and other popular forms of recreation.

The University is located near major shopping centers, churches, theaters and medical facilities. The heavy concentration of manufacturing plants, service industries, governmental agencies and shopping centers provide an opportunity for many students who desire part-time employment while attending the University.

THE PHYSICAL PLANT

The main campus of the University is located on land holdings in excess of 181 acres. The University farm located east of the Greensboro City limits includes approximately 600 acres of land and modern farm buildings. The approximate value of the physical plant is \$65 million.



University Buildings

The Dowdy Building (Administration)
 Dudley Memorial Building
 F. D. Bluford Library
 Richard B. Harrison Auditorium
 Charles Moore Gymnasium
 Coltrane Hall (Headquarters for N.C.
 Agricultural Extension Service)
 The Memorial Union
 The Oaks (Chancellor's Residence)
 The Ellis F. Corbett Center
 The Joseph Bryan House

Class Room and Laboratory Buildings

Carver Hall—School of Agriculture
 Cherry Hall—School of Engineering
 Crosby Hall—School of Arts and Sciences
 Gibbs Hall—Social Sciences & School of Graduate Studies
 Hodgin Hall—School of Education
 Noble Hall—School of Nursing
 Benbow Hall—Home Economics
 Garret House—Home Economics
 Hines Hall—Chemistry

Sockwell Hall—Agricultural Technology
 Ward Hall—Dairy Manufacturing
 Reid Greenhouses—Plant Science
 Graham Hall—School of Engineering
 Frazier Hall—Music-Art
 Price Hall—Division of Industrial Education & Technology
 Price Hall Annex—Child Development Laboratory
 Campbell Hall—ROTC Headquarters
 Barnes Hall—Biology
 Merrick Hall—School of Business and Economics
 J. M. Martena Hall—Physics, Mathematics & Physical Science
 Reed African Heritage Center—Museum
 Social Science Building—Gibbs Hall
 Animal Science Facility

Residence Halls

Curtis Hall
 High Rise Dormitory (East)
 High Rise Dormitory (West)
 Holland Hall

Morrison Hall
 Vanstory Hall
 Cooper Hall
 Scott Hall
 Senior Hall
 Zoe P. Barbee Hall
 Alex Haley Hall
 Holt Hall

Service Buildings

Murphy Hall—Student Services
 Dowdy Building—Student Financial Aid Office
 Williams Hall—Cafeteria
 Brown Hall—Post Office
 Sebastian Infirmary
 T. E. Neal Heating Plant
 Laundry-Dry Cleaning Plant
 Clyde Dehuguley Physical Plant Building
 Garrett House

Other Facilities

Alumni Stadium

Athletic field—including three practice fields for football, quarter mile track, baseball diamond and field house.

SCHOOLS AND DIVISIONS OF NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY

North Carolina Agricultural and Technical State University includes the following schools and divisions:

- The School of Agriculture
- The School of Arts and Sciences
- The School of Business and Economics
- The School of Education
- The School of Engineering
- The School of Nursing
- The Graduate School
- The Division of Continuing Education and Summer School

ACCREDITATION AND INSTITUTIONAL MEMBERSHIPS

North Carolina Agricultural & Technical State University is a fully accredited member of the
**SOUTHERN ASSOCIATION OF
COLLEGES AND SCHOOLS.**

The Department of Industrial Technology is accredited by the National Association of Industrial Technology

The Media Program is accredited by the Association of Educational Communications and Technology

The School of Engineering is accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET)

The School of Nursing is accredited by the National League for Nursing, Department of Baccalaureate and Higher Degree Programs

The Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education

The Department of Chemistry is accredited by the American Chemical Society

The School of Business and Economics is accredited by the American Assembly of Collegiate Schools of Business

The Department of Sociology and Social Work is accredited by the Council on Social Work Education

The University holds institutional membership in the following associations:

- American Association of Colleges for Teacher Education
- American Association of Collegiate Registrars and Admission Officers

- National Association of State Universities and Land Grant Colleges

- American Association of Colleges of Nursing

- American College Public Relations Association

- American Council on Education

- American Public Welfare Association

- American Library Association

- Association of American Colleges

- Association of Collegiate Deans and Registrars

- Association of Collegiate Schools of Architecture

- College Language Association

- National Association of Business Teacher Education

- American Personnel and Guidance Association

- National Association of Student Personnel Administrators

- Association of College Unions International

- National Association of College and University Food Service

- National Commission on Accrediting
- National Institutional Teacher

- Placement Association

- National League for Nursing, Council of Member Agencies,

- Department of Baccalaureate and Higher Degree Programs

- North Carolina Association of Colleges and Universities

- North Carolina League of Nursing

- North Carolina Library Association

- Southeastern Library Association

- Southern Regional Education Board
- Council on Collegiate Education for Nursing

- Graduates of the University are eligible for membership in the American Association of University Women

DEGREE PROGRAMS

Students who complete one or more of the courses of study listed below will be awarded the degree indicated.

Undergraduate Degrees

- Accounting—B.S.
- Administrative Services—B.S.
- Agricultural Business—B.S.
- Agricultural Education—B.S.
- Agricultural Economics—B.S.
- Agricultural Engineering—B.S.
- Agricultural Science—B.S.
- Agricultural Technology—B.S.
- Art, Design—B.A.
- Art Education—B.S.
- Art, Painting—B.A.
- Architectural Engineering—B.S.
- Biology—B.S.
- Biology, Secondary—B.S.
- Business Administration—B.S.
- Business Education, Secondary—B.S.
- Chemistry—B.S.
- Chemistry, Secondary Education—B.S.
- Child Development—B.S.
- Clothing and Textiles—B.S.
- Computer and Information Sciences—B.S.
- Driver and Safety Education—B.S.
- Early Childhood Education (K-3)—B.S.
- Economics—B.S.
- Electrical Engineering—B.S.
- Engineering Mathematics—B.S.
- Engineering Physics—B.S.
- English—B.A.
- English, Secondary Education—B.S.
- Food and Nutrition (Including Dietetics)—B.S.
- Food Science—B.S.
- French—B.A.
- French, Secondary Education—B.S.
- Health and Physical Education—B.S.
- History—B.A.
- History, Secondary Education—B.S.
- Home Economics Education—B.S.
- Industrial Arts Education—B.S.
- Industrial Engineering—B.S.
- Industrial Technology—B.S.
- Laboratory Animal Science—B.S.
- Landscape Architecture—B.S.
- Mathematics—B.S.
- Mathematics, Secondary Education—B.S.
- Mechanical Engineering—B.S.
- Music—B.A.
- Music Education—B.S.
- Nursing—B.S.
- Occupational Safety and Health—B.S.
- Physics—B.S.
- Physics, Secondary Education—B.S.
- Political Science—B.A.
- Professional Theatre—B.A.
- Psychology—B.A.
- Recreation Administration—B.S.
- Social Science, Education—B.S.
- Sociology—B.A.

Social Work—B.S.W.
 Speech and Theatre—B.A.
 Transportation—B.S.
 Vocational-Industrial Education—
 B.S.

***Graduate Degrees**

MASTER OF ARTS

English and Afro-American
 Literature

MASTER OF SCIENCE

Adult Education
 Agricultural Economics
 A. Agricultural Marketing
 B. Production Economics
 C. Rural Development
 Biology
 Chemistry
 Electrical Engineering
 Engineering
 Food and Nutrition
 French
 Industrial Engineering
 Mechanical Engineering
 Specialized Teaching and Related
 Fields
 A. Administration, Supervision
 and Post-Secondary Educa-
 tion
 (1) Administration
 (2) Supervision
 B. Agricultural Education
 C. Education Media
 D. Elementary Education and
 Reading
 (1) Early Childhood Educa-
 tion
 (2) Elementary Education
 (3) Intermediate Education
 (4) Reading
 E. Guidance or Counseling
 Education
 (1) Agency Counseling
 (2) Counselor—Education
 (3) Human Resources
 F. Industrial Education
 (1) Industrial Arts Educa-
 tion
 (2) Vocational Industrial
 Education
 Specialized Secondary Education
 Teaching Fields with Majors in
 Subject Matter Departments
 A. Art
 B. Biology
 C. Chemistry
 D. English
 E. History

F. Mathematics
 G. Health and Physical Edu-
 cation
 H. Social Science

FERDINAND DOUGLASS BLUFORD LIBRARY

The University library, the Ferdinand Douglass Bluford Library, gets its name from Dr. Ferdinand D. Bluford, President of the Institution from 1925 to 1955. The library is a five-story facility located near central campus. The current holdings include 318,000 book volumes, 1,536 serial subscriptions, and, as a select depository in North Carolina for United States government documents, the library contains a collection of over 140,300 official publications. Other holdings include a superior collection in films, microforms and other audio visuals. The library maintains special collections in Archives, Black Studies, Teacher Educational Materials, and a Chemistry Collection located in the Chemistry Department in Hines Hall on the campus.

Special services are provided through a formal and informal library use instructional program, on-line computerized literature searching, Interlibrary loans, and photocopy service at a minimal charge. Limited meeting facilities are available for faculty and student use. During the academic year the library is open ninety-two hours each week as shown below. Variations in this schedule are posted at the front entrance of the library.

Monday-Thursday
 8:00 a.m.-12:00 a.m.
 Friday
 8:00 a.m.- 8:00 p.m.
 Saturday
 9:00 a.m.- 5:00 p.m.
 Sunday
 2:00 p.m.-10:00 p.m.

Educational Support Centers

The University's educational support centers include the Learning Assistance Center, the Audiovisual Center, the Closed Circuit Television Facility, a 10-watt student-operated educational Radio Station, the Computer Center, the Reading Center, Language Laboratory, and the Center for Manpower Research and Training.

Museums

The H. Clinton Taylor Art Gallery located in the F. D. Bluford Library and the African Heritage Center are two outstanding art museums. Throughout the year, these museums have on display a number of special exhibits of sculpture, paintings, graphics, and other media.

CONTINUING EDUCATION AND SUMMER SCHOOL

Through the Office of Continuing Education and Summer School the University seeks to provide educational opportunities through credit and non-credit activities for the non-traditional learner who desires such work for advancement or renewal in his/her current occupation; for preparation for new careers or vacations; or for intellectual and cultural development.

Activities conducted by this office include the Extended Day Program through which classes are offered in the evenings and on weekends. The office develops and coordinates extension courses in various communities throughout the State. The staff works with faculty and community groups in developing and conducting both credit and non-credit workshops and short courses. In addition to the continuing education functions, the office also coordinates the Summer School program.

The Summer School program consists of two five-week sessions and a two-week intersession. This program provides the opportunity for summer study to meet the needs of graduate and undergraduate degree seeking students; of teachers and other professional persons; and of any other persons for whom summer study will assist in the attainment of their educational goals.

COOPERATIVE EDUCATION

Cooperative Education is a carefully organized and supervised program of "Experiential Learning" in which the participating student enriches his or her education by alternating periods of classroom study with periods of work related to his or her academic major. It is OPTIONAL on the part of the student and is COUNSELING-CENTERED. The objective of the

* See Graduate School Bulletin for complete instructions

program is to enrich the Total Educational Experience of students involved.

THE LEARNING ASSISTANCE CENTER

The Learning Assistance Center is organized to provide special services to

students who need assistance in strengthening their reading communication and computational skills. The objective of this program is to help each enrollee to develop a foundation for completing his or her college career.

The program provides special classes in English, Reading and

Mathematics. It offers tutorial services and helps the enrollees to develop study skills.

GREENSBORO REGIONAL CONSORTIUM

The Greensboro Regional Consortium is an organization



comprised of North Carolina Agricultural and Technical State University, The University of North Carolina at Greensboro, High Point College, Greensboro College, Bennett College and Guilford College. The organization promotes interinstitutional cooperation and cooperative educational activities among the six institutions. Agreements provide the opportunity for any student to enroll at another institution for a course or courses not offered on one's home campus.

OFFICE OF DEVELOPMENT AND UNIVERSITY RELATIONS

The Office of Development and University Relations is maintained by the University not only to assist with the overall institutional development, but also to promote its continual interest among alumni, parents, friends, foundations, corporations and other sectors of the national community. It encourages annual alumni giving, deferred giving and conducts special fund campaigns. The office embraces the following areas of operation: Alumni Affairs, Cooperative Education, Public Information, Industry Cluster, Fund Raising, Publications, Public Relations, Legislative Relations, Industrial Liaison, Sports Publicity and special educational projects.

In addition, the Office aids in conducting the affairs of the N.C. A & T University Foundation, Inc., which has been established to assist in soliciting gifts from other than state coffers for such worthy purposes as unrestricted student scholarships, specialized scholarships for students in science, engineering and fine arts, faculty improvement, faculty chairs, research programs, an endowment fund, the art gallery, historical museum and capital funds.

The Office is conveniently located in the Dowdy Administration Building.

Student Life

STUDENT DEVELOPMENT SERVICES

The broad objective of the program

of Student Development Services is to aid students in developing the attitudes, understandings, insights and the skills which will enable them to express themselves as socially competent persons. The program places special emphasis on campus relationships and experiences which complement formal instruction. More specifically, the program of Student Development Services is conceived as a continuing exercise of identifying and remedying the daily life problems of the student. Accordingly, very definite efforts are made:

1. To help students become better acquainted with themselves and the various problems confronting them.
2. To help students to develop the ability to make satisfactory choices and adjustments.
3. To aid students in making desirable adjustments in group relationships.
4. To provide cultural and social experiences which will help students to develop an appreciation for the best in their cultures.
5. To promote the physical, mental, moral and spiritual development of students.

The Vice Chancellor for Student Affairs directs student development services, Counseling Services, Housing, Health Services, the Placement Services, University Union, International and Minority Student Affairs, Veterans and Handicapped Student Affairs, faculty advisors, other individuals and agencies. Some of these services are described as follows:

GUIDANCE AND COUNSELING SERVICES

Provision is made for counseling, testing, and guiding all students through the Counseling Service Office. It is located in 108 Murphy Hall.

Counseling Services include: (1) Individual and group personal counseling; (2) Academic and career/occupational counseling; (3) Individual, University and National Testing and (4) Outreach counseling programs and activities. In addition, the Office of Counseling Services cooperates with the Director of Placement in the placement of graduates.

All counseling is voluntary, free of charge, private and confidential.

HEALTH SERVICES

The Health Service Center employs a staff of doctors and nurses who are qualified to give professional attention to the health problems of students. The basic components of the health service program are as follows:

1. *Medical Services:*

The University employs a Director of the Health Services. University Physicians are in attendance in the infirmary daily—Afternoons and evening—and “on call” on 24 hour basis.

2. *Nursing Services:*

Registered nurses, under the direction of a head nurse, are in attendance daily on a twenty-four hour basis.

3. *Follow-up and Consultative Services:*

Follow-up services are given, and referrals to specialists are made upon recommendation of the University Physician.

4. *Physical Examinations:*

a. Athletes, nursing students, advanced ROTC cadets and other special groups of students are given complete physical examinations at the Student Health Center each semester or whenever necessary.

b. All prospective students are required to secure a complete physical examination, a blood test and chest x-ray reports and send the examination reports to the Director of Health Services before they are admitted to the University. The blood test and chest x-ray reports must be secured within 60 days prior to the date of enrollment. Follow-up examinations are made at the Health Center when necessary.

FOOD SERVICES

The University provides food services for students at a reasonable cost. A snack bar is located in the Memorial Student Union Building. Students who live in the residence halls are required to eat in the cafeterias. Students who live in the city may purchase meals also.



HOUSING

The residence halls provide opportunities for personal, social, and intellectual companionship as well as experiences in group living.

Housing facilities for women are provided in Curtis, Morrow, Holland, Morrison, Vanstory and Zoe Barbee. Men are housed in Cooper, Scott, Alex Haley, Kent Court and Holt Hall.

The Director of Housing provides assistance for students in locating off-campus housing.

THE MEMORIAL UNION

The Memorial Union began operations in the Spring Semester of the 1966-67 academic year. It is a "Community Center" serving diverse needs. It embraces a wide variety of facilities and performs a multiplicity of functions.

The facilities include: Lounges, Reading Room, Student Organization Meeting Rooms, Music Room, Games Rooms, Ballroom, Office Space,

Bookstore, Bowling Lanes, Dining Room and Snack Bar, Information Center, Barber Shop, Beauty Shop, and Guest Rooms.

Additionally, the Memorial Union serves as a Student Activity Headquarters, Recreation Center, Cultural Center, Ticket Bureau, Public Relations Agency, Refuge for Meditation, Art Gallery, and Forum and Workshop Center.

The physical proximity provides a co-curricular community for students, faculty, alumni and publics served by the University. The Memorial Union facilitates a positive social, recreational and cultural mission.

STUDENT ORGANIZATIONS AND ACTIVITIES

The University provides a well-balanced program of activities for moral, spiritual, cultural and physical development of the students. Religious, cultural, social and recreational activities are sponsored by various committees, departments, and organizations of the University.

Outstanding artists, lecturers and dramatic productions are brought to the campus also.

A listing of student organizations, their purposes, objectives, etc., is published annually.

STUDENT CONDUCT

Students enrolled at North Carolina Agricultural and Technical State University are expected to conduct themselves properly at all times. They are expected to observe standards of behavior and integrity that will reflect favorably upon themselves, their families and the University. They are expected to abide by the laws of the city, state, and nation, and by all rules and regulations of the University.

Accordingly, any student who demonstrates an unwillingness to adjust to the rules and regulations that are prescribed or that may be prescribed to govern the student body will be suspended or expelled from the institution. Furthermore, any student who violates the rules and regulations of the University will be suspended.

A student may forfeit the privilege of working for the University when, for any reason, he or she is placed on probation because of misconduct.

VETERANS AFFAIRS AND SERVICES

North Carolina A. and T. is an approved University for veterans and other eligible persons (children and spouses), who wish to attend and receive benefits under the Veterans' Readjustment Benefits Act of 1966.

Persons wishing to attend the University under the Veterans Administration Educational Training Program should apply first to the Veterans Administration for a Certificate of Eligibility.

Simultaneously, they should apply for admission to North Carolina A. and T. State University through normal admissions procedures. However, the issuing of a Certificate of Eligibility by the Veterans Administration does not automatically assure a student of admission to North Carolina A. and T. State University.

An Office of Veterans Affairs is established to assist veterans with enrollment and adjustment to college life. Upon enrolling at North Carolina A. and T. State University, the veteran or eligible person should report to the Office of Veterans Affairs for certification. If a

Certificate of Eligibility has not been issued, the veteran or the eligible person should present the following:

1. Certified copy of separation form (DD 214).
2. Marriage certificate (for married veterans only).
3. Copy of divorce decree, if veteran or spouse has been married more than once.
4. Birth certificates of dependent children (veterans only).

In addition to the above, the Office of Veterans Affairs provides counseling, testing and evaluation, tutorial, recruitment and outreach services.

HANDICAPPED STUDENT AFFAIRS

The Office of Handicapped Student Affairs is established to identify academic programs, student services, and student activities, to assure that they are readily accessible to the handicapped student. Likewise, it focuses on facility accessibility for all handicapped students.

It serves as a liaison for all handicapped students as they participate in programs and activities enjoyed by all students.

All information and services for the handicapped are handled through this office.

CAREER PLANNING AND PLACEMENT

The Career Planning and Placement Center at North Carolina A. and T. State University has as its major objective the procurement of satisfactory, temporary, part-time, summer or permanent employment for students, prospective graduates and alumni of the University. Other objectives and services for students include the arrangement of individual and group conferences for career counseling purposes and the scheduling of interviews between interested students and representatives of various employing firms, government agencies, businesses, and school administrators. Services are always performed with a conscientious and sincere interest for both prospective employers and employees. There is no charge to students, alumni or employers for this service. The Placement Office is located in Room 101, Murphy Hall.

OFFICE OF INTERNATIONAL AND MINORITY STUDENT AFFAIRS

The Office of International and Minority Student Affairs has been established to serve the special needs of the international and minority students and to assist them in obtaining the maximum benefits from their experience while attending this University.

The purpose is to develop a comprehensive program and service model that will enable international and minority students to participate in multicultural learning experiences.

More specifically, the program, services and activities of the office are designed to accomplish the following objectives:

1. To reduce the cultural shock experienced by the International student
2. To provide the experience essential for the student to make a satisfactory adjustment to a different culture
3. To assist the student in developing attitudes, understandings, insights and professional skills that may be useful after completing his or her studies at the University.



Expenses and Financial Aid

GENERAL INFORMATION

NORTH CAROLINA A & T STATE UNIVERSITY IS A PUBLICLY SUPPORTED INSTITUTION. TUITION PAYMENTS AND OTHER REQUIRED STUDENT FEES MEET ONLY A PART OF THE TOTAL COST OF THE EDUCATION OF STUDENTS ENROLLED. ON THE AVERAGE, FOR EACH FULL-TIME STUDENT ENROLLED IN AN INSTITUTION OF THE UNIVERSITY OF NORTH CAROLINA, THE STATE OF NORTH CAROLINA APPROPRIATED \$4,050 PER YEAR IN PUBLIC FUNDS TO SUPPORT THE EDUCATIONAL PROGRAMS OFFERED.

THE UNIVERSITY RESERVES THE RIGHT TO INCREASE OR DECREASE ALL FEES AND CHARGES AS WELL AS ADD OR DELETE ITEMS OF EXPENSE WITHOUT ADVANCE NOTICE AS CIRCUMSTANCES, IN THE JUDGMENT OF THE ADMINISTRATION, MAY REQUIRE.

Boarding and Lodging fees are based on the actual number of days school is in session and do not include holidays, breaks, or any other University Vacations.

Students' property in dormitories and other University buildings is at the sole risk of the owner, and the University is not responsible for loss, theft, or damage to such property arising from any cause.

Students are required to pay for any loss or damage to University property at replacement cost due to abuse, negligence, or malicious action, in addition to being subject to disciplinary action.

The costs of required "hardback" textbooks are included in the required fees for undergraduate students only. The cost of reference books, workbooks, supplies, and "soft-back" books are not included in the required fees. All rental textbooks are required to be returned not later than the final day of examinations each semester. The cost of rental textbooks not

returned as stated above will be added to the students' accounts. Other policies and procedures governing the Book Rental System can be obtained from the University Bookstore.

Personal spending money should be sent directly to and made payable to the student in the form of money orders or certified checks. As a policy, the University does not cash personal checks for students in any amount.

Diplomas and transcripts are withheld until the student has paid in full all fees and charges due the University. A student in debt to the University in any amount will not be permitted to register for any subsequent semester until his or her obligations are paid. If special financial arrangements have been made, failure to comply with these arrangements as stipulated will result in the student being withdrawn from the University for non-payment of required fees.

Special Notice to Veterans

Veterans attending school under the provisions of Public Law 89-358 receive a monthly subsistence allowance from the Veterans Administration. Therefore, veterans are responsible for meeting all of their required fee obligations.

Veterans attending school under the provision of Public Law 894 (Disabled Veterans) receive a monthly subsistence allowance from the Veterans Administration and also, the Veterans Administration pays directly to the school the cost of the veteran's tuition and required fees. All other fees are the responsibility of the veteran.

Veterans may contact the Veterans Affairs Office on Campus for any special consideration which may be available.

REQUIRED DEPOSITS, CHARGES AND FEES

All registration fees and charges are due and payable in full before or at the beginning of registration for each semester. Payments made by mail must be postmarked not later than August 15 for the fall semester, and December 17 for the spring semester.

ALL PAYMENTS MUST BE MADE BY CERTIFIED CHECK, BANK DRAFT, MONEY ORDER, OR CASH. Personal Checks will not be accepted. Checks, drafts, and money

order must be made payable to North Carolina A. & T. State University, and sent directly to:

Cashier's Office
North Carolina A. & T. State University
Greensboro, NC 27411

PLEASE DO NOT SEND CASH PAYMENTS BY MAIL!

A \$15 NON-REFUNDABLE APPLICATION FEE IS REQUIRED OF ALL APPLICANTS.

HOUSING DEPOSIT

A housing fee of \$50 is required of all students who plan to live on campus and is to be paid in the following manner:

1. All new freshmen, new transfer and first time resident students shall pay by May 15 for the fall semester and November 12 for the spring semester.
2. If the student does not plan to utilize campus housing, cancellation notice must be given to the Office of Housing Operations according to the following schedule or the deposit is forfeited:
 - (a) On or before July 31 for the fall semester.
 - (b) On or before November 30 for the spring semester.
3. If housing is not available for the student, refund request will be made by the Office of Housing Operations on the first day of classes. All refunds will be processed one month after request.
4. Students eligible for refunds may initiate a refund request through the Office of Housing Operations located in Room 232 Murphy Hall.

Charge Category—DAY STUDENT (Student Living Off Campus).

Payment—Each Semester.

Residence Status—In-State—

\$444.00. *Out-of-State—\$1,723.00

Charge Category—BOARDING

ONLY STUDENT (Student Living

Off Campus but taking meals on campus). **Payment—Each Semester.**

Residence Status—In-State—

\$881.00. *Out-of-State—\$2,160.00.

Charge Category—BOARDING

AND LODGING STUDENT (Student Living On Campus. NOTE: All Dormitory Students must take meals

in the University Dining Hall and participate in the student accident insurance program, however, the cost of this insurance is covered by our current lodging fee.

Payment—Each Semester. **Residence Status**—**In-State**—\$1,330.00. ***Out-of-State**—\$2,609.00.

REGULAR SESSION CHARGES FOR PART-TIME STUDENTS NORTH CAROLINA STUDENT RATES

No. of Hrs.	Tuition	Other Required Fees	Total
1-5	\$ 51.00	\$ 51.65	\$102.65
6-8	103.00	135.75	238.75
9-11	154.00	239.00	393.00
12 or more	205.00	239.00	444.00

* Agencies requiring special academic programming and administrative services for their sponsored foreign students will be charged a one-time special operational programming fee at the time of enrollment. The amount of such fee will be established in the contract or other agreement of the sponsoring agency.

OUT-OF-STATE STUDENT RATES

No. of Hrs.	Tuition	Other Required Fees	Total
1-5	\$ 371.00	\$ 51.65	\$ 422.65
6-8	742.00	135.75	877.75
9-11	1,113.00	239.00	1,352.00
12 or more	1,484.00	239.00	1,723.00

(Boarding and Lodging Per Semester)—\$886.00

Incidental Fees, Deposits, and Charges:

Accident Insurance (Optional)	\$16.00
Activity Sticker Replacement Fee	4.00
Ambulance Service	70.00
Application Fee (Non-Refundable) No Credit on Account	15.00
Book Rental	74.00
Chemistry Laboratory Breakage Deposit (Refundable)	5.00
Cooperative Education Administration Fee	15.00
Diploma—Graduate	15.00
Diploma—Undergraduate	10.00
Identification Card Replacement Fee	5.00
Infirmary Meal Charge (Per Meal— Day Student)	1.50
Key Replacement Fee	5.00
Late Registration Fee	20.00
Linen Deposit (Refundable)	10.00
Linen Rental	34.00
Master's Thesis Binding Fee	20.00
Meal Card Replacement Fee	10.00
Motor Vehicle Registration—Regular Student	15.00
Motor Vehicle Registration—Evening Student	7.50
Regalia Fee—Graduate	26.50
Regalia Fee—Undergraduate	13.50
Residence Hall Laundry Use	10.00

AFROTC Uniform Deposit (Refundable)	15.00
Room Deposit (Escrow)	50.00
Special Examination Fee (\$5-\$15 Average)	15.00
Parking Fee	(\$2.00-10.00)
Transcript Fee	2.00
Army ROTC Uniform Deposit (Refundable)	10.00

AUDIT OF COURSES

Course auditing is available to any student upon payment of all applicable fees. Full-time students may audit courses without additional charges. Students auditing courses are not required to participate in class discussion, prepare assignments, or take examinations. **COURSE AUDITING IS WITHOUT CREDIT.**

REFUND POLICY

Refunds of tuition and related fees upon official withdrawal from the University will be made according to the following schedule:

IF WITHDRAWAL IS WITHIN THE FOLLOWING WEEKS OF OFFICIAL REGISTRATION DATE

1 Week	90%
2 Weeks	80%
3 Weeks	75%
4 Weeks	60%
5 Weeks	45%
6 Weeks	35%
7 Weeks	20%
8 Weeks	15%
After 8 Weeks	None

Room and Board—Pro-Rated for remaining days of the Semester.

WITHDRAWAL FROM COURSES

In order to receive financial credit for withdrawal from courses, a student must withdraw from course(s) within the official "add" period.

THE UNIVERSITY RESERVES THE RIGHT TO INCREASE OR DECREASE ALL FEES AND CHARGES, AS WELL AS ADD OR DELETE ITEMS OF EXPENSE WITHOUT ADVANCE NOTICE AS CIRCUMSTANCES, IN THE JUDGMENT OF THE ADMINISTRATION MAY REQUIRE.

SUMMER SCHOOL CHARGES PER CREDIT HOUR

	N.C. Student	Out-of-State Student
Tuition	\$22.00	\$70.00
Other Required Fees Depends on hrs.	6.50-60.00	6.50-60.00
Boarding and Lodging— Per Week	43.75	
Linen Service— Per Week	2.00	
Resident Hall Laundry Fee	2.00	

Per Stud. (Lodg. Stud.)

DETAILS OF FEES, DEPOSITS, AND CHARGES

Required Fees— N.C. Student	Per Semester	Per Year
Tuition	\$ 205.00	\$ 410.00
Other Required Fees	239.00	478.00
Total—N.C. Day Student	\$ 440.00	\$ 888.00
Boarding and Lodging		
Board and Lodging	\$ 824.00	\$1,648.00
Reserve for Construction and/or Renovation of Dormitories	35.00	70.00
Linen Deposit (refundable)	5.00	10.00
Residence Hall Laundry Use	5.00	10.00
Linen Rental	17.00	34.00
Total Boarding and Lodging	\$ 886.00	\$1,772.00
Total—N.C. Boarding and Lodging Student	1,330.00	2,660.00
Out-of-State Student		
Tuition	1,484.00	2,968.00
Other Required Fees	239.00	478.00
Total—Out-of-State Student	\$1,723.00	\$3,446.00
Boarding and Lodging	886.00	1,772.00
Total—Out-of-State Boarding and Lodging	\$2,609.00	\$5,218.00

STUDENT FINANCIAL AID

Through the student financial aid program, the University makes every effort to assure that no qualified student will be denied the opportunity to attend because of a lack of funds. A student who demonstrates financial need and has the potential for success in the University may obtain assistance to meet their expenses depending upon funds available. Financial aid is awarded without regard to a student's race, religion, color, national origin, or sex.

The University provides financial aid for students from four basic sources: grants, scholarships, loans, and employment.

The University student aid funds are administered in conjunction with a nationally established policy and philosophy of financial aid for education. The basis of this philosophy

is the belief that parents are the primary and responsible resource for helping to meet educational costs and student financial aids are available for filling the gap between the student's resources and expenses.

The amount of the contribution expected from parents is related to consideration of a family's financial strength, net income, number of dependencies, allowable expenses and indebtedness, and assets. Procedures established by a central needs analysis system and approved by the federal government are used in making this evaluation.

The University believes in the "packaging concept" of financial aid. Students with great need may expect assistance through a variety of sources which may include loans, employment, scholarship or grants.

Typical Sources of Financial Aid

National Direct Student Loan
Pell Grant (Basic Educational
Opportunity Grant)
Supplemental Educational
Opportunity Grant
College Work-Study Programs
Nursing Loan Program
Nursing Scholarship Program
State Tuition Scholarship
National Alumni Scholarship
Departmental Scholarships
Minority Presence Scholarship
Donated Scholarships
Institutional Scholarship Programs
Guaranteed Student Loan
(PLUS) Parent Loans to
Undergraduate Students

A student who wishes to be considered for financial assistance must complete the following steps:

1. Submit a Financial Aid Form to the College Scholarship Service or Family Financial Statement to American College Testing.
2. Submit the Student Aid Report for the federal Pell Grant (Basic Educational Opportunity Grant) to the Student Financial Aid Office. (Required of undergraduate students only).

A student who completes the Financial Aid Form or Family Financial Statement will be considered for all financial assistance at the University for which he/she is eligible, including general scholarships, grants, loans, and employment.



Deadlines to have your completed application on file in the Student Financial Aid Office in order to receive consideration for assistance have been established as follows:

Fall Semester of any year:

May 15

Spring Semester of any year:

October 15

Summer School of any year:

April 15

Entering Students: A student entering the University as a freshman, transfer, graduate, or former student should apply for financial aid at the same time he/she applies for admission. A financial aid award will not be made until a student is admitted to the University, and it is important that the admission procedure be completed as soon as possible.

Transfer and Graduate Students. A student who has previously attended another postsecondary school, college or university must submit a Financial Aid Transcript to document his/her financial aid status at the previous school. A separate transcript must be completed for each school previously attended.

Graduate Students. A graduate student who applies for financial aid is eligible to be considered only for loan assistance and for campus employment. Information about graduate assistantships may be obtained from the Graduate School Office.

All applicants must re-apply for financial assistance each academic year (or portion thereof) and separately for a summer session.

Information About Other Programs of Financial Aid

A student is encouraged to apply to sources outside as well as, inside the University for whatever assistance he/she may be eligible to receive. An award from outside sources must be reported to the Student Financial Aid Office so that it may be included as a part of the student's total aid. A student may be eligible for assistance from the following programs:

1. *North Carolina Student Incentive Grants.* Grant funds are

available to North Carolina residents who are full-time, undergraduate students and who have substantial financial need. The NCSIG program is administered by College Foundation. Eligible students must complete Item 41 of the Financial Aid Form or Item 76 of the Family Financial Statement in order to apply for the NC Student Incentive Grant Program.

2. *Vocational Rehabilitation.*

Grants may be provided to needy students who are physically handicapped. A North Carolina student should contact the Vocational Rehabilitation Division of the Department of Human Resources in Raleigh.

3. *North Carolina Prospective Teachers' Scholarship-Loan.* The Department of Public Instruction in Raleigh administers a program of assistance to North Carolina students who plan a teaching career in the public schools of North Carolina.

4. *North Carolina Veterans' Scholarships.* The children of deceased or disabled veterans or of veterans who were listed as POW/MIA may be eligible for scholarships from the North Carolina Division of Veterans' Affairs, Raleigh.

5. *North Carolina Commission for the Blind.* Grants may be provided to needy students who are physically handicapped. A North Carolina student should contact the North Carolina Department of Human Resources, Division of Services for the Blind in Raleigh.

6. *North Carolina Medical Care Commission.* A student may obtain information about the program by writing to Department of Human Resources, Division of Facility Services, P.O. Box 12200, Raleigh, NC 27605.

7. *Cooperative Educational Program.* The Cooperative Education Program operates under two plans, Precooperative Education and Cooperative Education. After the freshman

year, the student alternates semesters of full-time study with semesters of full-time related work experience. The students are paid by the sponsoring employer during the work experiences. Both plans are counseling-centered and the objectives are to enrich the total educational experiences of the students involved.

8. *ROTC Scholarships.*

AFROTC/AROTC Scholarships for four (4), three-and-a-half (3½), three (3), two-and-a-half (2½), and two (2) years may be available, based on Air Force/Army Officer accession needs, to men and women in selected engineering fields, selected scientific fields, selected non-technical academic majors, Navigator/Missile Launch Officer (for last 3½, 3 2½, or 2 years of a Bachelors Degree), pre-health professions (only for last 2 or 3 years of a Bachelors Degree, premedicine (Physician/Osteopath only), and nursing (only for last 2 years of a Bachelors Degree in Nursing).

9. *Minority Presence Grants.* Under the Board of Governors general Minority Presence Grant Program, white students may be eligible for special financial assistance if they are residents of North Carolina, enrolled for at least three hours of degree-credit coursework, and demonstrate financial need.

North Carolina Rehabilitation Corporation Student Loan Program

Loans under this program are available to needy and worthy North Carolina farm males/females who plan to study agriculture or home economics. The loans bear interest at the rate of (4%) percent per annum. Application forms and additional information may be obtained from North Carolina Rural Rehabilitation Corporation, P.O. Box 2403, Raleigh, NC.

ADMISSIONS

POLICY

North Carolina Agricultural and Technical State University is an equal opportunity institution committed to the principle that access to study be afforded on the basis of individual merit and without regard to race, religion, national origin or handicap. Unless otherwise specified, admission to all undergraduate curricula are under the jurisdiction of the Director of Admissions.

PROCEDURES

Submission of Application

Inquiries on and applications for admissions should be made to the Office of Admissions, North Carolina Agricultural and Technical State University, Greensboro, North Carolina 27411. A non-refundable fee of \$15.00 is required with each application.

Application Deadline

The recommended deadlines for submitting the application for admission is June 1 for the Fall Semester and December 1 for the Spring Semester. Applications received after these dates will be honored on a day-to-day basis as long as classroom space is available. Applications for early decision must be received by November 1 prior to Fall Semester of intended enrollment. In all cases, early application is encouraged because class space and housing facilities dictate to some extent the number of new students that can be admitted for each semester.

International students on non-immigrant VISA's are required to submit the application by May 1 for Fall Semester and November 1 for the Spring Semester.

Supporting Documentation

1. To be considered official, all transcripts from high school and/or college must be sent directly to the Office of Admissions from the sending institutions.

2. SAT or ACT scores, when applicable, must be official and reports sent directly from the testing agency. The University's CEEB code for the SAT report is 5003; the code for the ACT report is 3060.
3. The submission of a final or complete transcript from the last school attended is the responsibility of the student. Thus, the University reserves the right to withdraw any offer of admission if the applicant fails to satisfy all requirements prior to the closing of the first semester of enrollment.

Notice of Admission and Confirmation

The University practices "rolling admission"; therefore, decisions are made as soon as a file is complete. Early decision notices are mailed between December 1 and December 15. Candidates who are offered admission must notify the University of their intent to enroll. Students approved for admissions will be forwarded a letter of acceptance and a permit to register. The candidate reply date of May 1 for freshmen student for each fall term is honored by the University. Transfer students should confirm within two weeks of the receipt of the admission letter. Failure to comply will affect adversely the candidate's reserved space. Persons who are approved for admissions will also be notified in normal fashion.

ADMISSIONS CRITERIA

Freshman Applicant

An applicant for admission is considered individually, in accordance with the following criteria:

1. Evidence of academic achievement and promise with considerable facility in the use of the English language and with an understanding of the fundamental mathematical processes.
2. Complete record from an accredited secondary or preparatory school with a graduation based on no fewer than 16 units (see subject matter requirements in next section).
3. Satisfactory scores on the Scholastic Aptitude Test or the American College Test.

4. Satisfactory class rank or grade point average.

These criteria and those which follow are applied flexibly to assure that people with unusual qualification are not rejected in the admissions process.

Unit Requirements

For admission to all undergraduate programs, except Nursing, the applicant must present sixteen (16) units of high school credit in the following academic fields:

English4 units
Mathematics2 units (1)
Social Science1 unit (2)
Laboratory Science1 unit (3)
Electives8 units (4)

- (1) All students must present Algebra I and Geometry. Students planning majors in the School of Business and Economics, and Science curricula in the School of Arts and Sciences, must present 3 academic units—2 units of Algebra, $\frac{1}{2}$ unit of plane Geometry and $\frac{1}{2}$ unit of Trigonometry. Students planning to major in Engineering, Mathematics or Physics, must present $3\frac{1}{2}$ academic units—2 units of Algebra, 1 unit of plane Geometry and $\frac{1}{2}$ unit of Trigonometry.
- (2) United States History is recommended.
- (3) Biology, Chemistry, Physics or Earth Science (ESCP) are recommended options.
- (4) No more than 4 units in vocational subjects and 2 units in the disciplines of Music and Physical Education. Courses in Foreign Language are highly recommended.

In addition to the above listed criteria, the standards governing admission to the School of Nursing are as follows:

- 1) a combined Scholastic Aptitude Test score of 750 or higher, or
- 2) a cumulative grade point average of "B" or better.

New admission policy for School of Engineering will be added pending approval by faculty.

Freshman applicants who present sixteen (16) acceptable high school units, but lack proficiency in mathematics and English for their

intended curricula may be admitted on a conditional basis. Such students are required to enroll in a full-time program of studies during the first semester.

Conditionally admitted students may be required to take special non-credit courses to remove deficiencies and such courses must begin immediately upon enrollment in the first year of study and subsequent enrollments scheduled for each semester as required until the deficiency has been satisfied.

Undergraduate Admissions Requirements Beginning with the Fall 1988 Semester

Minimum general undergraduate admissions requirement consists of the high school diploma or its equivalent and includes the following common core of course units:

- a) 4 course units in college preparatory English;
- b) 3 course units in mathematics, including geometry, and algebra I and algebra II;
- c) 2 course units in social studies, including one unit in government and economics, and one course unit in U. S. history; and
- d) 3 course units in science, including at least one unit in a life or biological science and at least one unit in a physical science, and including at least one laboratory course.

It is strongly recommended that prospective students be advised to complete at least two units in one foreign language and that a mathematics course unit and a foreign language course unit be taken in the twelfth grade.

Transfer Students

The University accepts qualified students by transfer from other accredited colleges. Applications for admission may be considered if the transfer student:

- 1) is not presently on social or academic probation at the last or current school of attendance.
- 2) has a cumulative average of at least a "C" in the institution from which transferring and must be eligible to return to that institution.
- 3) has not been suspended or dropped from another institution.



Transfer students who have attended another accredited college but have earned less than thirty (30) semester hours of acceptable credit or equivalent must meet all freshman requirements.

Applications from transfer students cannot be considered until all credentials are received from the high school and all other institutions previously attended. In addition, there must be a statement of good standing and honorable dismissal from these institutions. Previous college records must show a cumulative average of "C" or above, no course is accepted in which a grade below "C" was originally earned.

Accepted courses are recorded to the student's credit, but grade points are not calculated on the transferred courses.

Transfer applicants who are ineligible to return to their former institutions and who have not been enrolled in that institution for a period of one calendar year may also be admitted on a conditional basis. Transfer applicants who are not covered by the above stated policy are referred to the next section on special students.

Special Students

Special students are those who are not candidates for degree at the present time. This category includes 1) non-degree seeking students, 2) visiting students, 3) high school enrichment students and 4) persons who are ineligible to return to their home institution but are ineligible for admissions as a transfer student. The University welcomes into this admission status enrollment of persons for either the Fall or Spring semesters. Those persons who are pursuing degrees elsewhere, who possess a baccalaureate degree, or who are seeking certification or who desire to earn prerequisites for graduate work. Such students may register upon the presentation of a signed statement from the appropriate official of his institution or certifying agency specifically listing and approving the courses to be taken. Credit will be transferred to the sponsoring institution or agency. Such enrollment does not constitute regular admission to the University. To apply for this category of admissions, an applicant must:



- 1) Request of the Director of Admissions an application form.
- 2) Complete this form and return it with:
 - a. Records of previous educational experiences.
 - b. Other documentary evidence of ability to pursue the courses desired.
 - c. A statement of the applicant's objectives or purpose in pursuing studies chosen.

Such persons may register for no more than 12 semester hours per academic term and may remain in this category until they have attempted a total of 24 semester hours.

After completing one semester of full-time study, or its equivalent, the unclassified student may petition the University's Admission and Retention Committee to be admitted to the University as a regular degree candidate on the basis of their academic accomplishments. All communications must be written and sent to the committee in care of the Director of Admissions.

International Students

North Carolina Agricultural and Technical State University welcomes and accepts application from qualified students who are not United States citizens. Such students must meet each of the following criteria:

- 1) Satisfy all requirements governing admissions for the School to which the application is made. The expected program of study from their feeder school should be university preparatory and the leaving school certificate marks must support academic promise.
- 2) Show proficiency in written and oral English usage. If English is not the first language of communication, the Test of English as a Foreign Language (TOEFL) is required and a satisfactory level of English Proficiency on both the total and part scores are required.

- 3) Can conform to all contract regulations of the United States Immigration and Naturalization Service and be eligible for F-1 Student Status as a freshman or transfer from another school.

The I-20, Certificate of Eligibility, will be prepared for all new international students who are admitted to the University and who have official documentation on file attesting to their ability to meet their school fees. The University has no financial aid for international students and permission to work is not usually granted by INS.

OTHER POLICIES AND PROCEDURES

Filing of Credentials

Applicants should take the proper steps to see that their credentials (transcripts, etc.), are sent to the Director of Admissions as early as possible, preferably not less than thirty (30) days before the beginning of the semester in which they plan to enroll.

Interviews and Campus Visits

Interviews are not required for admission, however, persons with unusual circumstances are welcome to schedule appointments to discuss these matters with an Admissions Counselor or the Director of Admissions. Campus visits are encouraged and campus tours are routinely given. Reservations for the tour are highly recommended.

Orientation, Registration and the Opening of the Semester

All newly admitted students are expected to attend Orientation and freshman students living on-campus the day preceeding freshman Orientation (See University Calendar). Placement testing is required of all freshmen in

Mathematics, English and Reading. These tests are designed as aids for academic advising and scheduling and students who fail to show proficiency in these academic areas will be assigned remedial course work.

Regulations for Veterans and Children of Deceased and Disabled Veterans

Veterans and children of deceased and disabled veterans must meet regular admission requirements. Preliminary application for any educational benefits due them should be made to the nearest regional office of the Veterans Administration well in advance of the desired admission date in order that the necessary information and documents may be obtained.

Graduate Applicants

Graduate School admission is under the supervision of the Dean of the Graduate School, North Carolina A&T State University, Greensboro, North Carolina 27411. Information concerning admission to the Graduate Degree Programs can be found on page 131 of this Bulletin.

Continuing Education Applicants

Summer session, the evening and weekend college and continuing education, off-campus and non-credit courses, are under the supervision of the Assistant Vice Chancellor for Academic Affairs. Information concerning admission and/or enrollment should be directed to that office. The address is:

100 Dudley Building
North Carolina A&T State University
Greensboro, NC 27411

Generally admission requirements for continuing education classes are the same as those for comparable work in regular classes on campus. However, the persons may be admitted for non-credit courses and

programs not applicable to a University degree. A continuing education applicant is usually one of matured years, with special training along particular lines or of long experience in special fields of knowledge, thus such a person can be either a degree or unclassified applicant. Continuing education enrollees who have taken compatible courses for credit may later choose to change their status to degree seeking.

RESIDENCE STATUS FOR TUITION PAYMENT

Residence classification for tuition purposes are set forth by law in North Carolina as follows:

G.S. 116-143.1—(The controlling North Carolina Statute) "To qualify as a resident for tuition purposes, a person must have established legal residence (domicile) in North Carolina and maintained that legal residence for at least 12 months immediately prior to his or her classification as a resident for tuition purposes." This Statute also sets forth statutory definitions, rules, and special provisions for determining resident status for tuition purposes. These provisions include special rules with respect to persons who are married or who are within identified subclasses of minors.

University regulations concerning the classification of students by residence, for purposes of applicable tuition differentials, are set forth in detail in *A Manual To Assist The Public Higher Education Institution of North Carolina in the Matter of Student Residence Classification for Tuition Purposes*. Each student is responsible for knowing the contents of that Manual, which is the controlling administrative statement of policy on this subject. Copies of the Manual are available on request in The Office of Admissions of A. and T. State University for purposes of student inspection.

Academic Information and Regulations

Each student is responsible for informing himself or herself of the academic regulations and requirements set forth in this Bulletin and for revisions of same as posted on campus bulletin boards or released in other official publications of the University. Failure to meet the requirements or comply with regulations because of lack of knowledge thereof does not excuse the student from meeting the academic regulations and requirements.

A student's program of study must be approved by his or her advisor, his or her chairperson or a member of the faculty in his or her major department at registration. Advisors will make every attempt to give effective guidance to students in academic matters and to refer students to those qualified to help them in other matters. However, the final responsibility for meeting all academic requirements for a selected program rests with the student.

ADVANCED PLACEMENT

Students entering the University from secondary school may obtain advanced placement and college credit on the basis of performance on the College Entrance Examination Board Advanced Placement examinations. A score of 3 or higher on any CEEB advanced placement examination will entitle the student to credit for the comparable University course as determined by the Director of Admissions in consultation with the Chairperson of the appropriate department.

COURSES OF STUDY

Students should refer to the requirements of their respective departments and schools about their programs of study and confer with their advisor whenever problems arise. The student is expected to follow the program outlined as close as

possible. This is very important during the first two years when he or she is satisfying basic degree requirements and prerequisites for advanced work.

PREREGISTRATION

Preregistration is a time designated each semester to allow the student and his or her advisor to review the student's records and plan a program for the next semester.

The student has an opportunity to discuss academic problems with the advisor. Preregistration helps to ensure that the courses requested on the preregistered schedule will be available to the students the following semester.

Students who are enrolled in the University during the preregistration period are expected to preregister during the period designated for this purpose.

OFFICIAL REGISTRATION

In order for a student to get credit for a course, he or she must be properly registered in that course. This means that the student must have gone through the registration procedures as outlined by the University. Further, the student must have filed with the office of Registration and Records the required class schedule and paid all required tuition and fees.

LATE REGISTRATION

Students are expected to complete enrollment (including the payment of all required fees) on the dates listed on the University Calendar. The payment of fees is part of the registration process. No student is eligible to attend classes until the required fees have been paid.

Students who fail to complete registration during the scheduled dates will be required to pay a late registration fee of \$20.00.

AUDITORS

Regular students may audit a course upon the written approval of the instructor and his or her faculty advisor. They must register officially for the course and pay an audit fee to the University Cashier.

Attendance, preparation, and participation in the classroom discussion and laboratory exercises shall be at the discretion of the instructor.

Auditors are not required to take examinations and tests and they receive no credit. An auditor may not change his or her registration from audit to credit or from credit to audit after the date for dropping courses shown in the University Calendar.

COURSE LOAD

The normal course load is 15 or 16 semester credit hours. An undergraduate student must carry a minimum of twelve semester credit hours in order to be fulltime.

The maximum course load that a student may carry at the University is eighteen credit hours, unless the student has a cumulative grade point average of 3.0 or higher or has a 3.2 semester average in twelve or more hours the immediate past semester.

The maximum course load that a student may carry who has a cumulative grade point average of 3.0 or higher is twenty-one hours.

The maximum course load that a student may carry who is on academic probation is twelve semester hours.

Undergraduate students on academic probation who have a cumulative grade point average at or above the minimum level that is required based on the number of semesters completed are exempted from the twelve hour course load limit.

DOUBLE MAJOR

Students who desire to obtain a double major, involving two departments or two schools must satisfy the major requirements for each department or school.

PREREQUISITES

A course which is designated as prerequisite to another course indicates that the prerequisite is required before taking the next course. Credit may be granted to indicate acceptable performance in the prerequisite course content by successful completion of standardized tests under the College Level Examination Program (CLEP) or

successfully passing an examination adopted or prepared by the department granting the credit.

REPETITION OF COURSES

A student who has received a failing grade in a required course at this University must repeat and pass the course unless the dean of the School authorizes a substitute course. In cases where a student earns a "D" in his major field and is required to repeat the course the "D" is treated in the same manner as an "F". This is, the "D" is dropped in the computation of the GPA for the purpose of meeting graduation requirements in his major field.

When a course is repeated and passed, other than independent study courses which usually carry the same numbers and may be taken several times, the highest grade will be used to meet the course and degree requirements.

A student who is taking a course as an elective or out of his or her major field is not held to the prerequisite provision. However, permission of the instructor of the course or the student's department chairperson is required.

A student who has received a passing grade in any course at this University may repeat the course for credit at his or her option. Again, when this is done *only* the higher grade will count towards meeting course and degree requirements. *Dual course credit is not allowed.* This is to say that only three (3) hours of credit

are allowed for a three (3) hour course regardless of the number of times it is repeated.

All grades earned by the student including "F's" are a part of his or her official academic record and will appear on his or her transcript.

CORE REQUIREMENTS OF THE UNIVERSITY

The University has approved the principle of greater flexibility in the course offerings that can be taken to satisfy the core requirements of the University. The areas in the core and the minimum semester hour requirements are as follows:

Areas	Minimum Number of Semester Hours Required	Suggested Courses
English	6	*English 100, 101
Social Science	6	History 100, 101
Natural Science	6	Biological Science 100 Physical Science 100 Botany 140 Zoology 160
Humanities	6	Chemistry 101, 102
Mathematics	6	Humanities 200, 201
Health or Physical Education	2	Mathematics 101, 102
* Five year program * Required course		

COURSE CREDIT BY EXAMINATION

Credit may be earned by examination for any undergraduate course for which a suitable examination has been adopted or prepared by the department granting the credit. The student

receives the grade "P" and regular credit for the number of hours involved. However, the credit hours are excluded in computing the student's grade point average.

Credit may also be granted for the successful completion of standardized tests under the College Level Examination Program (CLEP), as approved for specific courses by University departments. There is no maximum amount of credit that a student may earn, but a student must complete a minimum of three semesters as a full-time student in residence at the University. Fees for CLEP and other standardized examinations are determined externally, rather than by the University. These credits are treated as transfer credits. Questions about the program may be addressed to the Director of Admissions, or the Director of Counseling services.

(Grading System)

Grades are assigned and recorded as follows:

Grade	Description	Grade Points
A	Excellent	4
B	Good	3
C	Average	2
D	Below Average, but passing	1
F	Failure	0
I	Incomplete	
P	Satisfactory (credit by examination)	
S	Satisfactory (non-credit courses)	
U	Unsatisfactory (non-credit courses)	
V	Audit	
W	Withdraw	

ACADEMIC RETENTION

The normal load for an undergraduate student is sixteen (16) credit hours per semester. The minimum load for a full-time undergraduate student is twelve (12) credit hours per semester. The student is expected to make normal progress toward a degree. Generally, normal progress means the completion of twelve or more semester hours each semester with a 2.0 grade point average or higher for full-time students.

To be in good academic standing a full-time student must have the following minimum grade point average and the following semester hours passed at the beginning of the semester indicated:



To Enter the		
Semester Indicated	Over-all GPA	Hours Passed*
Third	1.2	24
Fifth	1.4	48
Seventh	1.7	72
Ninth	1.9	96

* A student is eligible to register if he or she has a minimum overall grade point average of 2.0 and has attended the University less than the maximum number of semesters allowed for the degree program.

A student must achieve a minimum semester grade point average of 2.0 each semester enrolled beyond the eighth (8th) semester to be in good academic standing. A student is eligible to continue to work toward an undergraduate degree until he has attended eleven (11) semesters as a full-time student (not including summer session) or until he has attempted 170 semester hours, whichever comes first. If a student is in a five year degree program that student has a maximum of thirteen semesters to complete all degree requirements or may attempt a maximum of 194 hours whichever comes first.

The student should be aware of his or her academic status each semester. Failure to meet the minimum academic requirements given above makes the student eligible for immediate suspension. A student who is suspended for a given semester may apply for re-admission for the next semester. The application for readmission should reach the Office of Registration and Records 30 days prior to the beginning of the semester that the student wishes to re-enroll. Upon enrolling, the student is required to achieve a minimum semester grade point average of 2.0. No student will be suspended for the second time if he earns a minimum grade point average of 2.0 for the current semester. The student who fails to meet the minimum academic requirements after having been suspended and re-admitted is subject to permanent academic dismissal, subject to the provisions of the academic appeal procedure.

A part-time undergraduate student enrolled in a degree program must maintain the following minimum cumulative grade point average at the end of the cumulative semester hours indicated:

SEMESTER HOURS	GRADE POINT AVERAGE
24	1.2
48	1.4
72	1.7
96	1.9

A part-time undergraduate student is defined as one who enrolls in less than twelve (12) hours during a semester. The part-time student who fails to maintain the minimum average is subject to the actions prescribed for full-time students. A part-time student who enrolls in the university after an academic suspension must achieve a minimum semester grade point average of 2.0.

Veterans will be certified for the length of their program. Thereafter, certification will be made on a semester basis contingent upon their potential for completion of their program within a reasonable time. This might be determined by university counseling.

VETERANS AND PERSONS ELIGIBLE FOR VETERANS BENEFITS

After eight semesters the student must maintain a minimum grade points average of 1.90. To graduate, however, the student must complete a minimum of 124 semester hours with a grade point average of 2.0.

Veterans will be certified annually for the length of their program. Thereafter, certification will be made on a semester basis, contingent upon their potential for graduation within a reasonable time, as determined by University counseling.

GRADE POINTS

Grade points are computed by multiplying the number of semester hour credits by 4 for courses in which a grade of A is earned; by 3 for a grade of B; by 2 for a grade of C; by 1 for a grade of D. No grade points are given for a grade of F.

GRADE POINT RATIO

The grade point ratio is obtained by dividing the total number of grade points earned by the total number of semester hours attempted.

COURSE NUMBER AND CLASSIFICATION

Each course bears a distinguishing number which identifies it within the department and indicates, broadly, its level. The numbering system is as follows:

100-399, lower level courses primarily for freshmen and sophomores
400-599, upper level courses primarily for juniors and seniors
600-699, courses for undergraduate and graduate students
700-799, courses for graduate students and appropriate professional students special programs.

CLASSIFICATION OF STUDENTS

Students are classified on the basis of semester hours completed, excluding remedial and deficiency courses. The following classification scale applies to all students enrolled in a four (4) year program:

CLASSIFICATION	SEMESTER HOURS COMPLETED
Freshman	0-32
Sophomore	33-63
Junior	64-95
Senior	96 or above

The following classification scale applies to students enrolled in a five year program:

CLASSIFICATION	SEMESTER HOURS COMPLETED
Freshman	0-33
Sophomore	34-67
Lower Junior	68-100
Upper Junior	101-133
Senior	134 or above

CHANGE OF GRADE

A request for a change of grade, for any reason, must be made within one year following the date the original grade was assigned by the faculty member.

CHANGES IN SCHEDULE

A change in a student's program may be made with the consent of his or her instructor and department chairperson. However, if a student's schedule is changed after the designated period for adding and/or dropping courses, the consent of the School Dean is required.

The student must obtain and properly execute the Change of Schedule Form and the necessary schedule cards. These materials are obtained from the office of Registration and Records and should be returned to that office.



CHANGING SCHOOLS

Students may transfer from one School of the University to another with the written approval and acceptance of the Deans of the Schools involved. The proper forms on which to apply for such a change are to be obtained from the Office of the Registrar and executed at least six weeks prior to the beginning of the semester in which the student plans to transfer. When such a transfer is made the student must satisfy the current academic requirements of the school and/or department to which the student transfers.

WITHDRAWAL FROM THE UNIVERSITY

A student who wishes, or is asked to leave the University at any time during the semester shall execute and file official withdrawal forms. These forms may be obtained from the Counseling and Testing Center. They should be completed and taken to the office of Registration and Records. For failure to execute these forms, a student incurs the penalty of receiving an "F" for each course in which he or she is enrolled that semester.

Students who withdraw from the University within 15 calendar days of the beginning of the final examination period for the semester shall receive grades based upon their performance in classes up to the date of their withdrawal.

Re-Admission of Former Students

All students who withdraw from the University, voluntarily leave the University or are suspended, must obtain a permit to register before resuming their studies at the University.

The request for a permit must be received by the Office of Registration and Records at least thirty (30) days prior to the beginning of the semester in which the student plans to register. When requesting a permit, the student should include his or her student number, major, last term in attendance and permanent address.

Before a student is re-admitted, who voluntarily leaves or withdraws, his or her academic record is reviewed. If the student did not attain the minimum academic performance level for the number of semesters enrolled at the University, the request for readmission is subject to be denied.

Former students who have been dismissed from the University for failure to meet the scholastic eligibility requirements may appeal to the Committee on Admissions and Retention for a review of their case. The appeal should be addressed to the Committee in care of the Vice Chancellor for Academic Affairs.

These persons should not present themselves for re-enrollment until they have received a reply from the Committee. Appeals should reach the Committee at least sixty (60) days prior to the beginning of the term in which the persons expect to register.

Former students whose attendance has been interrupted by the University for disciplinary reasons must apply to the Vice Chancellor for Student Affairs for a review of their case for possible re-admission.

INCOMPLETES

Students are expected to complete all requirements of a particular course during the semester in which they are registered. However, if at the end of the semester, a small portion of the work remains unfinished and should

be deferred because of some serious circumstances beyond the control of the student, an "I" may be submitted.

An "I" for a prolonged illness may be submitted only after the written approval of the Vice Chancellor for Student Affairs has been secured. An "I" for other causes may be submitted only with the approval of the Dean of the School.

Along with the recording of the incomplete grade, the instructor must also file with the head of the department, the student's average grade and a written description of the work which must be completed before the incomplete is removed.

(Procedure for the Removal of an Incomplete)

An incomplete grade must be removed within SIX WEEKS after the beginning of the next semester. If the student has not removed the incomplete within the time specified, the "I" becomes an "F". Developmental, thesis and research courses are exempted from this six week time limit.

SEMESTER EXAMINATIONS

A final examination will be required as a part of every course. An examination schedule showing time and place of meeting of each course and section will be published each semester. Schedules so published will be followed without exception. Any changes in the examination schedule must be approved by the Office of Academic Affairs.

HONOR ROLL

To encourage scholarship, the University publishes an Honor Roll at the end of each semester. Regular undergraduate students whose grade point average is 3.00 or higher shall be eligible for the Honor Roll. All hours attempted are included in the grade point average computation for honors.

CLASS ATTENDANCE POLICY

Regular and punctual class attendance is the responsibility of the individual student. Moreover, the student is expected to have sufficient maturity to assume the responsibility for regular attendance and to accept the consequences of failure to attend.

The non-compulsory class attendance policy places responsibility on the student and the instructor.

Student's Responsibility

1. The student is responsible for all material covered in each course for which he or she is registered. Absence from class does not relieve him or her of this responsibility.
2. The student is expected to be present for laboratory periods, scheduled examinations, and other activities that may require special preparation.
3. The student is responsible for initiating any request to make up an examination, a laboratory exercise or other work missed because of a class absence. If the instructor requests a statement concerning the reason for the absence, the student should obtain it from the appropriate officer (e.g., the University Physician, the Vice Chancellor for Student Affairs.)
4. The student is expected to report to each class at the beginning of the term with a validated schedule and a class admission card.

Instructor's Responsibility

1. The instructor is responsible for explaining to the class any specific expectations concerning attendance at the beginning of the term.
2. The instructor is responsible for providing the student with a schedule of the examinations and other class requirements that will provide a basis of evaluating student performance.
3. The instructor is responsible for maintaining a record of the attendance of the students in his or her class.
4. The instructor is expected to warn the student when his or her academic progress is adversely affected by excessive absence from class.

Policy on Make Up of Required Course Work

The administration, faculty and staff recognize that there are circumstances and events which require students to miss classes and required course work which may be

performed or due on the day of the absence. Also, they recognize that required course work is needed to give each student an adequate performance evaluation. Therefore, whenever reasonable (and more specifically described below), students should be allowed to make up required work.

The following definitions will apply with respect to this policy:

(a) Required course work—All work which will be used in the determination of final grades; e.g. examinations, announced quizzes, required papers and essays, required assignments.

(b) Instructor—Person responsible for the course and providing instruction and evaluation.

(c) Permissible reasons for requesting make up of required work—Sickness (verification needed); death of relatives (immediate family); participation in approved University related activities; acting in the capacity of a representative of the University (band, choir, sports related travel, etc.); extraordinary circumstances (court appearance, family emergency, etc.); require a signed statement. NOTE: Other reasons for requesting make up of required course work are not acceptable.

INSTRUCTORS SHOULD SCHEDULE MAKE UP WORK AT A TIME THAT IS CONVENIENT TO BOTH THE INSTRUCTOR AND THE STUDENT.

(d) Documentation—Verification of sickness requires signed statement of a physician or a duly authorized staff member of the Health Center.

Verification of death requires signed statement from the Minister or Funeral director.

Verification of participation in University related activities requires signed statement from the Office of the Vice Chancellor for Student Affairs.

Verification of other reasonable circumstances (for example: court appearance, family emergency, etc.) requires a signed statement from an appropriate official (e.g., Court Official, parent or guardian, etc.)

The policy regarding make-up of required course work is as follows:

- (1) A student may petition an instructor to make up required course work whenever the student has a permissible reason for

requesting make up of required course work.

- (2) Student will be required to present documentation which verifies absence constituting permissible reason.
- (3) Whenever possible, a student should consult with the instructor prior to an absence which will involve the failure to do required course work. Arrangements for make up should be discussed and agreed upon at this time.
- (4) A student must petition for make up of required course work within three (3) days of the date the work was missed, unless extenuating circumstances—which must be justified—exist.
- (5) If permission is granted to make up required course work, the instructor and the student should agree on an acceptable date for accomplishing the make up of missed required course work.
- (6) Failure to comply with item 4 may result in the denial to make up required course work.

GENERAL REQUIREMENTS FOR GRADUATION

A candidate for a degree from North Carolina Agricultural and Technical State University must satisfy the following minimum requirements:

1. Choose a specific curriculum leading to a degree in one of the schools and complete the requirements of this curriculum.
2. Complete a minimum of 124 semester hours excluding deficiency courses and remedial work for the Bachelor's degree.
3. Complete the core requirements of the University in English, Mathematics, Natural Science, Social Science, Humanities and Health or Physical Education for the Bachelor's degree.
4. Earn an average of two (2) grade points for every semester hour undertaken including hours passed or failed. After completing the number of credit hours required for graduation, if the student is deficient in grade points, he or she must take additional courses that have been approved by his or her academic dean to secure these points. The student must also obtain an average of 2.0 or more in his or her major field.

5. Complete a minimum of three semesters as a full-time student in residence at the University. This requirement includes the two semesters prior to the period when the student completes his or her requirements for graduation. At least one-half of the credits in the student's major field must be earned at the University. Exception to either of these provisions may be made upon the recommendation of the Chairperson of the student's major department with the approval of the School Dean.
6. Clear all academic conditions by the end of the semester preceding graduation.
7. Pay all University bills and fees.
8. File an application for graduation with the Office of Registration and Records in accordance with the schedule below:
 - A. May Graduation—By last day for late registration for spring semester
 - B. Summer Graduation—By the end of the second week of class in the summer session
 - C. December Graduation—By the last day for the late registration for the Fall Semester

GRADUATION WITH HONORS

Graduation honors are awarded candidates who complete all requirements for graduation in accordance with the following stipulations: (1) Those who maintain a general average within the range of 3.00 to 3.24 will receive CUM LAUDE, (2) those who maintain a general average within the range from 3.25 to 3.49 will receive MAGNA CUM LAUDE, and (3) those who maintain a general average within the range of 3.50 to 4.00 will receive SUMMA CUM LAUDE. A minimum of 50 percent of the credit hours required for a degree program must be earned at A & T State University to be considered for honors. This means that if the program requires a total of 126 credit hours, 63 of those hours must be earned at A & T. The computation for honors is based upon all courses taken at this University. Publication of honors and scholarships is made at graduation.

COMMENCEMENT PARTICIPATION

Students who complete degree requirements during the Summer Session or during the Fall Semester are invited to participate in the commencement exercises along with students who complete degree requirements during the Spring Semester.

Only students who have satisfied all requirements for their degree programs are eligible to march in the commencement exercises.

GRADUATION UNDER A GIVEN CATALOGUE

A student may expect to earn a degree in accordance with the requirements of the curriculum outlined in the catalogue in force when he or she first entered the University provided the courses are being offered. Moreover, he or she must complete these requirements within six years. On the other hand, he or she may graduate under any subsequent catalogue published while he or she is a student. If a student elects to meet the requirements of a catalogue other than the one in force at the time of his or her original entrance he or she must meet all requirements of the catalogue he or she elects.

SECOND BACCALAUREATE DEGREE

A student who has received a bachelor's degree from A&T or another accredited college or university may enroll in a program leading to a second degree at the same level providing (1) the major field is different from that of the first degree and (2) the appropriate application for admission or re-admission is filed and approved.

Students seeking a second baccalaureate degree must (1) complete a minimum of twenty-four (24) semester hours beyond those applied to the first or previous degree, excluding transfer credits or substitutions and dependent upon departmental requirements; (2) be in residence for a minimum of two (2) semesters as a full-time student if the first or previous degree was not earned at A&T; (3) achieve a cumulative minimum point average of 2.0 for all hours attempted for the degree.

GRADE REPORTS

As soon as they are determined at the end of each semester or summer term, a report of grades is sent to the student at his or her permanent home address.

PRIVACY OF STUDENT RECORDS

The University insures students access to their official academic records but prohibits the release of personally identifiable information, other than "directory information", from these records without their permission, except as specified by public law 93-380.

"Directory information" includes: Student's name, address, telephone number, date and place of birth, school, major, sex, marital status, dates of attendance, degree received, honors received, the institution(s) attended prior to admission to North Carolina Agricultural and Technical State University, past and present participation in officially recognized sports and activities, and physical factors.

Public Law 93-380 further provides that any student may, upon written request, restrict the printing of such personal information relating to himself or herself as is usually included in campus directories. A student who desires to have "directory information" withheld must submit a written request to the Office of Registration and Records one week before the beginning of classes for the semester or session in which he or she is enrolled.

ACCESS TO STUDENT RECORDS

1. The policy for the administration of student academic records is in accordance with the Family Educational Rights and Privacy Act of 1974, as amended.
2. Students have the right to inspect and review any and all official records, files, and data directly related to them.
3. A student who believes that his or her record contains inaccurate or misleading information shall have an opportunity for a hearing to challenge the content of the record, to insure that the record is not inaccurate, misleading, or otherwise in violation

of his or her privacy or rights, and to provide an opportunity for the correction or deletion of any such inaccurate, misleading, or otherwise inappropriate data contained therein or include the student's own statement of explanation.

4. The University will comply with requests from students to review their record within a reasonable period of time and not later than thirty (30) days after the requests are received.
5. The release of academic records requires the written permission of students, except as provided by public law 93-380. Transcripts are not issued to students who have not met their financial

obligations to the University.

6. Copies of the "University's Statement" concerning access to students' records are available in the Office of Registration and Records, the office of each school dean and department chairperson.

CHANGE OF NAME AND ADDRESS

It is the obligation of every student to notify the Office of Registration and Records of any change in name or address. Failure to do so can cause serious delay in the handling of student records and in notification of emergencies at home.

TRANSCRIPTS OF RECORDS

Requests for transcripts of students' records should be addressed to the Director of Registration and Records. The cost is \$1.00 per copy.

INDEBTEDNESS TO THE UNIVERSITY

No diploma, certificate or transcript of a record will be issued to a student who has not made a satisfactory settlement with the cashier for all indebtedness to the University. A student may not be permitted to attend classes or final examinations after the due date of any unpaid obligation.



SCHOOL OF AGRICULTURE

Burleigh C. Webb, Dean

Philosophy and Objectives. The School of Agriculture embraces the fundamental philosophy of the Land-Grant Institution and it accepts the obligation to provide a program of resident instruction, research and extension. It administers to the general needs of an interdependent rural-urban society and to the special needs of those who desire and benefit from instruction in agriculture and home economics.

The objectives of the School of Agriculture are twofold: (1) to develop the academic proficiency of its students through organized instruction and research and (2) to share its resources with its clientele through organized short courses, conferences, and related activities designed to meet special needs.

AGRICULTURAL RESEARCH PROGRAMS

Organized research is conducted in Agriculture and Home Economics by a research faculty with joint appointments in the instructional program. Much of the research activity is sponsored by the United States Department of Agriculture. It is conducted on the University farm and in on-campus laboratories where investigations include such disciplines as Agricultural Economics, Animal Science, Plant Science, Landscape Architecture and Design, Human Nutrition, Textiles and Food Science.

AGRICULTURAL EXTENSION SERVICE

Agricultural Extension is an educational service which provides information and assistance in a broad range of subjects to individuals, families, and organized groups in rural and urban areas of the state. The Agricultural Extension Service at North Carolina Agricultural and Tech-

nical State University is an integrated function of the state-wide program headquartered at North Carolina State University, Raleigh, North Carolina,

INSTRUCTIONAL PROGRAMS

Departmental Organization. The School of Agriculture is organized into the following departments: (1) Agricultural Economics and Rural Sociology, (2) Agricultural Education and Extension, (3) Animal Science, (4) Home Economics, and (5) Plant Science and Technology.

Requirements for admission. The requirements for admission to the School of Agriculture are the same as the general requirements for admission to the University.

Requirements for Graduation. The requirements for graduation for the Bachelor of Science Degree are as follows:

1. The student must have satisfied the course requirements of an approved curriculum in an organized department administered by the School of Agriculture.
2. The student must have earned a cumulative average quality of at least a "C" in his or her major courses and in his or her overall academic program.

Curricula. The curricula of the School of Agriculture provide program options in the disciplines of agriculture and the disciplines of home economics and are designed to provide the students who pursue courses of instruction leading to the Bachelor of Science Degree (1) a fundamental understanding of the basic disciplines which are applied to their respective majors; (2) liberal education experiences offered by the University; and (3) knowledge and competency required for specialization.

The Master of Science Degree is offered in Agricultural Education, Agricultural Economics and Food and Nutrition. (For further details consult the Graduate School Bulletin.)

A. Agricultural Curricula

Curricula in Agriculture at the bachelor's level lead to the B.S. degree

in Agricultural Technology, Agricultural Science, Agricultural Business and Economics, Agricultural Education, Food Science and Technology, Landscape Architecture, and Laboratory Animal Science. The organized departments offer specialty options within these curricula.

B. Home Economics Curricula

The curricula leading to the Degree of Bachelor of Science in Home Economics are offered in the area of (1) Clothing, Textiles and Fashion Merchandising, (2) Food and Nutrition, (3) Home Economics Education, (4) Child Development, and (5) Food Science.

Clothing, Textiles and Fashion Merchandising. This major leads to professional opportunities in clothing, textiles, fashion and business.

Food and Nutrition. The major in food and nutrition provides two options (1) Food and Nutrition, (2) Therapeutic Dietetics.

Home Economics Education. The Home Economics Education curriculum is designed to provide the necessary training skills for teachers of home economics, for graduate study and for a variety of careers with service organizations with concern for individual and family development.

Child Development. The curriculum in Child Development prepares students for positions as directors of nursery schools, hospital child care specialist, child care specialist in industry, state, local government and community sponsored agencies, day care specialist, media consultant for children's programs, private ownership in child care, and graduate study.

C. Cooperative Program in Food Science

Curricula leading to the B.S. degree in Food Science may be satisfied through one of two optional routes:

The 3-1 plan provides three years of prescribed work at North Carolina A. and T. State University and the fourth year is completed in cooperation with North Carolina State University at Raleigh.

The regular plan provides four years of study at A. and T. State University.

Department of Agricultural Economics and Rural Sociology

Richard D. Robbins, Chairperson

OBJECTIVES

The Department of Agricultural Economics and Rural Sociology offers programs leading to the Bachelor of Science and Master of Science in Agricultural Economics. Students who pursue the Bachelor of Science degree may concentrate in Agricultural Economics and Agri-business. Also, students majoring in Agricultural Economics may concentrate in Rural Sociology by taking prescribed courses in Sociology and Rural Sociology.

The objective of the programs is to train students in the understanding and application of the concepts and analytical tools of economics and business in a systematic approach to identifying, analyzing, and resolving management problems of farming, agribusiness firms, rural communities, and concerned government agencies, as well as preparing students for further study in Agricultural Economics.

DEGREES OFFERED

Agricultural Economics—B.S.
Agri-Business—B.S.
*Agricultural Economics—M.S.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree program is based upon the general admission requirements of the University.

DEPARTMENT REQUIREMENTS

The undergraduate major in Agricultural Economics must complete a minimum of 125 semester hours of University courses. Both, Agricultural Economics major and the Agri-business major must take a "core" requirement of 30 semester hours in

Agricultural and General Economics.

A representative distribution of disciplines, and requirements for the undergraduate Agricultural Economics majors is as follows:

Discipline Areas	Agricultural Economics Major	Agri-Business Major
General Education	42 Semester Hours	44 Semester Hours
Agricultural Econ. Economics	30 Semester Hours	30 Semester Hours
Technical Agriculture Electives	12 Semester Hours	12 Semester Hours
Business Administration and Accounting	9 Semester Hours	9 Semester Hours
	26 Semester Hours	12 Semester Hours*

* See the Bulletin of the Graduate School

CAREER OPPORTUNITIES

A bachelor's degree in Agricultural Economics prepares students for careers in teaching, extension, agricultural-related business firms and industries, government and private research firms, government services (legislative, administration, or professional), as well as for further study for higher degrees.

CORE COURSES FOR AGRICULTURAL ECONOMICS MAJORS

Course & Number	*Credit hours	Course Title
Econ. 300	3	Principles of Economics (Micro)
Econ. 301	3	Principles of Economics (Macro)
Ag. Econ. 330	3	Introduction to Agricultural Economics
Ag. Econ. 332	3	Elements of Farm Management
Ag. Econ. 334	3	Marketing Agricultural Products
Ag. Econ. 336	3	Agricultural Prices
Econ. 305	3	Elementary Statistics
or Ag. Econ. 644		
Econ. 310	3	Advanced Statistics
or Ag. Econ. 646		
Econ. 410	3	Intermediate Micro Theory
Econ. 420	3	Intermediate Macro Theory

* A grade of "C" must be made in all of the "core" requirements.

PROGRAM FOR AGRICULTURAL ECONOMIC MAJORS CONCENTRATING IN AGRI-BUSINESS

Freshman Year

<i>First Semester</i>	
English 100	3
History 100	3
Mathematics 111	4
Physical Science 100	4
Health Education 200	2
	<hr/> 16

<i>Second Semester</i>	
English 101	3
History 101	3
Mathematics 131	4
Biological Science 100	4
Air or Military Science or Electives	<hr/> 3
	17

Sophomore Year

<i>First Semester</i>	
Humanities 200	3
Economics 300	3
Psychology 320	3
Animal Science 111	3
Plant Science 110	<hr/> 3
	15

<i>Second Semester</i>	
Humanities 201	3
Economics 301	3
Ag. Econ. 330	3
Poultry Science 351	3
Ag. Econ. 644	<hr/> 3
	15

Junior Year

<i>First Semester</i>	
Ag. Econ. 332	3
Accounting 221	3
Ag. Econ. 300	3
Ag. Econ. 646	3
Economics 410	<hr/> 3
	15

<i>Second Semester</i>	
Ag. Econ. 334	3
Accounting 222	3
Speech 250	2
Electives (Major Area)	6
Economics 420	<hr/> 3
	17

Senior Year

<i>First Semester</i>	
Ag. Econ. 336	3
Bus. Administration 461	3
Ag. Econ. 675	3
Electives (Major Area)	3
Ag. Econ. 640	<hr/> 3
	15

<i>Second Semester</i>	
Bus. Administration 462	3
Bus. Administration 453	3
Electives (Major Area)	6
Electives	<hr/> 3
	15

Major and other electives should be chosen by the student in consultation with advisor.

**PROGRAM FOR
AGRICULTURAL
ECONOMIC MAJORS**

Freshman Year

First Semester

English 100	3
History 100	3
Biological Science 100	4
Mathematics 111	4
Health Education 200	2
	<u>16</u>

Second Semester

English 101	3
History 101	3
Physical Science 100	4
Mathematics 113	4
Air or Military Science or Electives	3
	<u>17</u>

Sophomore Year

First Semester

Humanities 200	3
Economics 300	3
Animal Science 111	3
Ag. Econ. 300	3
Ag. Econ. 644	3

Second Semester

Humanities 201	3
Economics 301	3
Plant Science 110	3
Ag. Econ. 330	3
Ag. Econ. 646	3
Physical Ed. 200	3

Junior Year

First Semester

Poultry Science 351	3
Economics 410	3
Foreign Language	3
Ag. Econ. 334	3
Elective (Major Area)	3
Ag. Econ. 332	3
	<u>18</u>

Second Semester

Economics 420	3
Foreign Language	3
Ag. Econ. 336	3
Elective (Major Area)	3
Speech 250	2
	<u>14</u>

Senior Year

First Semester

Elective (Major Area)	3
Ag. Econ. 638	3
Free Elective	3
Business Administration or Math Elective	6
	<u>15</u>



<i>Second Semester</i>	
Elective (Major Area)	6
Free Elective	3
Business Administration or Math Elective	6
	15

Major and other electives should be chosen by the student in consultation with advisor.

COURSES IN AGRICULTURAL ECONOMICS

- 330 Introduction to Agricultural Economics
- 332 Elements of Farm Management
- 334 Marketing Agricultural Products
- 336 Agricultural Prices
- 399 Independent Study I
- 440 Resource Economics
- 442 Cooperative Marketing
- 444 Marketing Dairy Products
- 530 Economics of Food Distribution
- 532 Agricultural Economics Research
- 630 Southern Resources in a Changing Economy—A Seminar
- 632 Agricultural Business Policy
- 634 Commodity Marketing Problems
- 636 Seminar in Marketing Farm Products
- 638 Special Problems in Agricultural Economics
- 640 Agri-Business Management
- 642 Seminar in Agricultural Economics
- 644 Statistical Methods in Agricultural Economics I
- 646 Statistical Methods in Agricultural Economics II
- 648 Appraisal and Finance of Agri-Business Firms
- 650 Human Resource Development
- 656 Agricultural Price Analysis
- 699 Independent Study II

COURSES IN RURAL SOCIOLOGY

- 300 Principles of Rural Sociology
- 501 Rural Social Problems
- 503 Rural Family
- 505 Rural Standards of Living
- 506 Special Problems in Rural Sociology
- 602 Rural Leadership and Organization

Course descriptions are available upon request from the Dean of the School.

DIRECTORY OF FACULTY

Agricultural Economics and Rural Sociology

- Richard D. Robbins, B.S., A. and T. State University; M.S., Ph.D., North Carolina State University at Raleigh; Professor and Chairperson.
- Sidney H. Evans, B.S., Virginia State College; M.S., Iowa State University; Ph.D., Ohio State University; Professor
- *Hari P. Marhatta, B. Comm., Tribhuvan University; M. Comm., Tribhuvan University; M.S., North Dakota State University; Ph.D., University of Connecticut; Associate Professor.
- Robin G. Henning, B.S., M.S., Ohio State University; Ph.D., Cornell University; Assistant Professor.
- Albert O. Yeboah, B.S., University of Ghana; M.S., University of Guelph; M.A., Ph.D., University of Wisconsin; Adjunct Assistant Professor.
- Anthony K. Yeboah, B.S., University of Science and Technology; M.S., Ph.D., Iowa State University; Assistant Professor.
- Donald R. McDowell, B.S., Southern University A. and M.; M.S., University of Illinois; Adjunct Instructor.
- Daniel Godfrey, B.S., A. and T. State University; M.S., North Carolina State University at Raleigh; Ph.D., Cornell University; Agricultural Extension Faculty.
- Alton Thompson, B.S., North Carolina Central University; M.S., Ph.D., Ohio State University, Adjunct Assistant Professor.
- Karl Wright, B.S., M.S., University of Maryland; Ph.D., Mississippi State University; Adjunct Assistant Professor

On leave.

Department of Agricultural Education and Extension

Arthur P. Bell, Chairperson
The Department of Agricultural

Education and Extension prepares students for positions in educational fields in agriculture and related areas including schools and colleges, agricultural extension, business, trade and professional associations, and government agencies. The Department administers a program approved by the State Department of Public Instruction for the preparation of teachers of agriculture in the public school systems. The program includes courses in general education, professional education, and technical agriculture.

DEGREES OFFERED

- Agricultural Education—B.S.
- *Agricultural Education—M.S.

GENERAL PROGRAM REQUIREMENTS

Admission of students to the undergraduate degree program in Agricultural Education is based on the general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

The Agricultural Education majors must complete 130 semester hours of credit. Included in the 130 semester hours are general education courses, professional education courses, and technical agriculture courses. A minimum grade of "C" must be achieved and maintained in these courses.

CAREER OPPORTUNITIES

A degree in Agricultural Education prepares students for careers in educational fields in agriculture and related areas. These included teaching and supervision in schools and colleges, agricultural extension, business and industry, trade and professional organizations and governmental agencies.

**See Graduate Bulletin for details.*

PROGRAM FOR AGRICULTURAL EDUCATION MAJORS

Freshman Year

Course and Number	Fall Semester Credit	Spring Semester Credit
English 100, 101	3	3
Mathematics 101, 102	3	3
History 100, 101	3	3
Botany 140	4	—
Zoology 160	—	4
Physical Education 101, 102	1	1
Agricultural Education 101, 102	1	1
Air or Military Science (Elective)	(1)	(1)
	15	15

Sophomore Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Speech 250	—	2
Psychology 320, 325	3	3
Chemistry 104, 105	4	4
Plant Science 110	—	3
Agricultural Engineering 114	3	—
Animal Science 111	3	—
Humanities 200, 201	3	3
Health Education 200	2	—
Economics 300 or Agricultural Economics 330	—	3
Air or Military Science (Elective)	(2)	(2)
	18	18

Junior Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Agricultural Education 400, 402	2	2
Agricultural Education 401, 403	2	2
Bacteriology 121	4	—
Soil Science 338	—	4
Education 400	3	—
*Technical Agricultural Electives	3	6
Free Electives	3	3
	17	17

Senior Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Agricultural Economics 332	3	—
Agricultural Education 501, 502	3	6
Agricultural Education 503	—	3
Agricultural Engineering 525	—	3
Rural Sociology 300 or Agricultural Education 609	3	—
Zoology 468 or Botany 530	3	—
*Technical Agricultural Elective	3	—
Free Elective	3	—
	18	12

AGRICULTURAL EDUCATION CONCENTRATION

The Agricultural Education major may follow a technical concentration by satisfactorily completing a minimum of 12 credit hours of technical agriculture electives in one of the following subject matter areas:

Agricultural Economics
Agricultural Engineering
Animal Science
Horticulture
Plant Science
Soil Science

The program will be worked out on an individual basis by the student and his/her advisor. Students may do a concentration in the area of Environmental Science by taking selected courses relating to the environment in the above subject matter areas and other areas which will prepare them for such teaching in the Agricultural Curriculum of the secondary schools. Suggested courses for these options are available in the Agricultural Education and Extension Department.

** Fifteen credits should be completed in one subject matter area (Technical Agriculture).*

DIRECTORY OF FACULTY AND COURSES

Arthur P. Bell, B.S., A&T College; M.S. and Ed.D., The Pennsylvania State University; Professor and Chairperson

Willie T. Ellis, B.S., M.S., A&T College; Ph.D., Cornell University; Professor
Daniel M. Lyons, B.S., M.S., North Carolina Agricultural & Technical State University; Ed.D., Virginia Polytechnic Institute and State University; Adjunct Instructor and Agricultural Extension Coordinator
Dalton H. McAfee, B.S., Alcorn State University; M.S., Tuskegee Institute; Ph.D., Ohio State University; Agricultural Extension Faculty
Henry Revell, B.S., A&T State University; M.S., A&T State University; Agricultural Extension Faculty

Courses

- 101 & 102 Introduction and Orientation
- 400 Audio-Visual Aids in Vocational and Technical Education
- 401 Youth Organization and Leadership
- 402 Secondary Education in Agriculture
- 403 Teaching Out-of-School Groups
- 404 Field Experiences in Vocational Agriculture
- 405 Field Experiences in Cooperative Extension
- 406 Field Experiences in Other Agricultural Education Programs
- 501 Materials and Methods of Teaching Agricultural Education
- 502 Student Teaching
- 503 Evaluation and Problems in Teaching Agricultural Education
- 601 Adult Education in Vocational and Extension Education
- 603 Problem Teaching in Vocational Education
- 604 Public Relations in Agriculture
- 605 Guidance and Group Instruction in Vocational Education
- 606 Cooperative Work-Study Programs
- 607 Environmental Education
- 608 Agricultural Extension Organization and Methods
- 609 Community Analysis and Rural Life
- 664 Occupational Exploration of Middle Grades
- 665 Occupational Exploration in the Middle Grades—Agricultural Occupations

- 700 Seminar in Agricultural Education
- 702 Methods and Techniques of Public Relations
- 703 Scientific Methods in Research
- 704 History and Philosophy of Vocational Education
- 705 Recent Developments and Trends in Agricultural Education
- 706 Comparative Education in Agriculture
- 707 Issues in Community Development and Adult Education
- 750 Community Problems
- 752 Administration and Supervision
- 753 Program Planning
- 754 History of Agricultural Education
- 760 Thesis Research in Agricultural Education

Course descriptions are available upon request from the Dean of the School.

Department of Animal Science

George A. Johnson, Chairperson

OBJECTIVES

The objectives of the Animal Science Department are to prepare students for admission to graduate school, professional school, research and industry; and to provide a service to the people of North Carolina, the Southeast, the United States and the world through resident instruction, research and continuing education.

DEGREES OFFERED

Agricultural Science—B.S.
Agricultural Technology—B.S.
Laboratory Animal Science—B.S.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree programs in the Department of Animal Science is based upon general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

The programs leading to the B.S. degree in Agricultural Science and in Agricultural Technology require a minimum of 124 semester hours. The program leading to the B.S. degree in Laboratory Animal Science requires a minimum of 128 semester hours.

All programs require a performance level of grade "C" or better.

CAREER OPPORTUNITIES

Agricultural Science and Agricultural Technology

Career opportunities are available in the following areas: livestock feed industry, livestock production, meat processing, livestock marketing, dairy industry, poultry industry, teaching, research and governmental agencies.

Laboratory Animal Science

Career opportunities for the Laboratory Animal Scientist are found in: pharmaceutical companies; local, state and federal regulatory agencies; biomedical research organizations; animal breeding firms; and laboratory animal resource establishments.

The curriculum in Laboratory Animal Science prepares graduates for admission to schools of veterinary medicine and graduate programs in animal health and related specialties.

PROGRAM FOR BACHELOR OF SCIENCE IN AGRICULTURAL TECHNOLOGY

Freshman Year

Course and Number	Fall Semester Credit	Spring Semester Credit
English 100, 101	3	3
Animal Science 111, Agric. Engineering 114	3	3
Botany 140, Zoology 160	4	4
Mathematics 101, 102	3	3
Agric. Education 101, 102	1	1
Elective	—	2
	14	16

Sophomore Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Humanities 200, 201	3	3
History 100, 101	3	3
Chemistry 101, 102, 111, 112	4	4
Animal Science 212, 214	3	3
Plant Science 110	3	—
Health Education 200	—	2
	16	15

Junior Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Economics 301, Agric. Economics 330	3	3
Dairy Science 321, Animal Science 314	3	3
Bacteriology 121	—	4
Soil Science 338; Poultry Sci. 351	3	3
*Electives (Major emphasis)	8	3
	17	16

Senior Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Plant Science 370; Agric. Engineering 402	3	3
Agric. Economics 332	3	3
*Electives (Major emphasis)	6	6
Free Electives	3	3
	15	15

Supporting Courses (Electives)

Agricultural Economics 334, 336;
Business 430; Speech 250, 251;
Chemistry 251, 252; Agricultural
Engineering 303, 523; Industrial
Technology 490; Mathematics 240.

** The major emphasis electives are to be selected in consultation with and consent of the advisor to enable you to specialize in meat animal, dairy or poultry production.*

Required courses for meat animal emphasis: Animal Science 312 and 413, Laboratory Animal Science 461.

Required courses for dairy emphasis: Dairy Science 340, Animal Science 413 and Laboratory Animal Science 461.

Required courses for poultry emphasis: Poultry Science 553, 556, and 657.

** The 28 credits as major electives are to be taken such that: 12 credits are selected from supporting courses; 16 credits are selected from one of the following areas of concentration: Animal Science, Dairy Science, Dairy Technology and Poultry.*

PROGRAM FOR BACHELOR OF SCIENCE IN AGRICULTURAL SCIENCE

Freshman Year

Course and Number	Fall Semester Credit	Spring Semester Credit
English 100, 101	3	3
Animal Science 111;		
Agric. Engineering 114	3	3
Botany 140, Zoology 160	4	4
Mathematics 111, 113	4	4
Agric. Education 101, 102	1	1
	15	15

Sophomore Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Humanities 200, 201	3	3
History 100, 101	3	3
Chemistry 106, 116; 107,		
117	5	5
Animal Science 212, 214	3	3
Plant Science 110;		
Health Education 200	3	2
	17	16

Junior Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Physics 225, 226	4	4
Economics 301;		
Mathematics 224	3	3
Chemistry 221, 223;		
Chem. 222, 224	5	5
Poultry Science 351;		
Bacteriology 121	3	4
*Electives (Major		
emphasis), Animal		
Science 340	3	3
	18	19

Senior Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Agric. Economics 330;		
Soil Science 338	3	3
Dairy Science 321	—	3
*Elective (Major		
emphasis)	6	3
Free Electives	3	3
	12	12

Supporting Courses (Electives)

Zoology 461, 465, 466; Agricultural Economics 332, 334, 336; Chemistry 222, 224; 251, 252; Speech 250, 251.

** The major emphasis electives are to be selected in consultation with and consent of the advisor to enable you to specialize in meat animal, dairy or poultry production.*

Required courses for meat animal emphasis: Animal Science 312 and 413, Laboratory Animal Science 461.

Required courses for dairy emphasis: Dairy Science 340, Animal Science 413, and Laboratory Animal Science 461.

Required courses for poultry emphasis: Poultry Science 553, 556 and 657.

PROGRAM FOR BACHELOR OF SCIENCE IN LABORATORY ANIMAL SCIENCE

Freshman Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Animal Science 111		3
Chemistry 106, 107	3	3
Chemistry Lab. 116, 117	2	2
English 100, 101	3	3
History 101	3	—
Math 111, 112	4	4
Physical Educa. Electives	1	1
Lab Animal Science		
161, 162	1	1
	17	17

Sophomore Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Biology 140, 160	4	4
Chemistry 221, 222	3	3
Chemistry Lab. 223, 224	2	2
Humanities 200, 201	3	3
Lab Animal Science 261	3	—
Political Science 200	3	—
Math 224	—	3
Speech 250	—	2
	18	17

Junior Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Animal Science 214, 351	3	3
Biology 121	—	4
Laboratory Animal		
Science 361, 362	4	4
Laboratory Animal		
Science 365	4	—
Personnel Management		
522	3	—
Physics 225, 226	4	4
	18	15

Senior Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Animal Science 611	—	4
Animal Science 618	1	—
Chemistry 251, 252	3	—
Laboratory Animal		
Science 461	3	—
Laboratory Animal		
Science 462	—	3
Laboratory Animal		
Science 562	3	—
Laboratory Animal		
Science 563	—	3
Electives	3	3
	13	13

Total Semester Hours 128

VETERINARY MEDICAL PREPARATION

(Pre-Veterinary)

Preparation for admission to the School of Veterinary Medicine, North Carolina State University, is offered through the program leading to the bachelor of science degree in Laboratory Animal Science at North Carolina Agricultural and Technical State University.

After satisfactory completion of specific undergraduate course requirements the major in laboratory animal science is eligible to apply for admission to veterinary school (see major advisor).

DIRECTORY OF FACULTY AND COURSES

A. Adeamola Ademoyero, B.S., A. and T. State University; M.S., Tuskegee Institute; Instructor

Joseph L. Bryant, B.S., Tennessee State University; M.S., University of Missouri; D.V.M., Tuskegee; Assistant Professor

Sharon Dawson, B.S., M.S., A. and T. State University; Instructor

Doris Fultz, B.S., D.V.M., Tuskegee Institute; Assistant Professor

Fields Gunsett, B.S., M.S., Ph.D., Iowa State University; Adjunct Associate Professor

George A. Johnson, M.S., Cornell University; D.V.M., Tuskegee Institute; Professor and Chairperson

Kennedy, Amos, B.S., Southern University; M.S., Ph.D., Michigan State University; Adjunct Professor

Marion R. McKinnie, B.S., A. and T. State University; M.S., Ohio State University; Animal Science Specialist, Agricultural Extension Program

Edward Segerson, B.S., M.S., Memphis State University; Ph.D., Ohio State University; Associate Professor

Alfreda J. Webb, B.S., D.V.M., Tuskegee Institute; M.S., Michigan State University; Professor

Willie L. Willis, B.S., Fort Valley State College; M.S., Ph.D., Colorado State University; Assistant Professor

Courses in Animal Science

110 Science of Animals that Serve Mankind

- 111 Introduction to Animal Science
- 212 Applied Nutrition and Feeding
- 214 Agricultural Genetics
- 217 Anatomy and Physiology of Farm Animals
- 311 Livestock Production
- 312 Meat and Meat Products
- 313 Livestock Evaluation
- 315 Horse Production
- 413 Sanitation and Diseases of Farm Animals
- 611 Principles of Animal Nutrition
- 613 Livestock and Meat Evaluation
- 614 Animal Breeding
- 615 Selection of Meat and Meat Products
- 617 Physiology of Reproduction of Farm Animals
- 618 Seminar in Animal Science
- 619 Special Problems in Livestock Management
- 713 Advanced Livestock Production

Courses in Dairy Science

- 312 Dairy Cattle Production
- 323 Dairy Cattle Evaluation
- 340 Milk and Milk Products
- 629 Special Problems in Dairy Management

Courses in Poultry Science

- 351 Production
- 354 Fundamentals of Poultry Breeding
- 553 Diseases and Parasites of Poultry
- 555 Incubation and Hatchery management
- 556 Processing and Marketing of Poultry Products
- 657 Poultry Anatomy and Physiology
- 659 Special Problems in Poultry
- 750 Poultry Research

Courses in Food Science

- 536 Food Plant Management
- 541 Food Packaging

Courses in Laboratory Animal Science

- 161 Orientation I
- 162 Orientation II
- 261 Medical Terminology
- 361 Integrated Anatomy of Domestic Animals I
- 362 Integrated Anatomy of Domestic Animals II
- 363 Internship I
- 365 Zootechniques in Research
- 461 Physiology of Domestic Animals
- 462 Principles of Medical Science
- 463 Internship II
- 464 Types and Breeds of Food Animals
- 465 Types and Breeds of Companion Animals

- 466 Types and Breeds of Laboratory Animals
- 562 Environmental Toxicology
- 563 Laboratory Animal Management and Clinical Techniques
- 564 Introduction to Research
- 660 Special Problems in Specimen Preparation
- 661 Special Problems in Electron and Light Microscopy
- 662 Special Problems in Radiology
- 663 Special Problems in Tissue Culture and Histochemistry
- 664 Special Problems in Radio-Immunology, Radio-Isotopes and Tracer Techniques

Course descriptions are available upon request from the Dean of the School.

DEPARTMENT OF HOME ECONOMICS

Harold E. Mazyck, Chairperson

OBJECTIVES

The objectives of the Home Economics Department are:

1. To develop satisfying personal, group and family relationships as a basis for active participation in a democratic society;
2. To understand the enrichment of home and family living through the appreciation and use of art and advances in science and technology;
3. To develop an understanding and appreciation of varying cultural backgrounds; and
4. To prepare the individual for gainful employment in one of the major areas of the profession.

DEGREES OFFERED

1. Home Economics—concentration in Clothing, Textiles and Fashion Merchandising—B.S.
- Food and Nutrition—B.S.
- Dietetics—B.S.
- Home Economics Education—B.S.
- Child Development—B.S.

2. Food Science—B.S.
3. *Food and Nutrition—M.S.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree programs in the Home Economics Department is based upon the general admission requirement of the University.

** See Graduate Bulletin for graduate program requirements.*

DEPARTMENTAL REQUIREMENTS

Home Economics undergraduate major—the major in Home Economics and all of the concentrations must complete a minimum of 124 semester hours of University courses. A minimum grade of “C” must be achieved in these courses for graduation. Students concentrating in Clothing and Fashion Merchandising must achieve a minimum of “C” in all Business courses.

Food Science undergraduate major—The Food Science major must complete a minimum of 124 semester hours of University course work. A minimum grade of “C” must be achieved in these courses for graduation.

ACCREDITATION

The Home Economics Teacher Education program is accredited by the National Council for Accreditation of Teacher Education and approved by the North Carolina State Department of Public Instruction under the University-wide accreditation and approval of teacher education programs.

The Dietetic program is approved under Plan IV by the American Dietetic Association.

CAREER OPPORTUNITIES

The programs in the home economics department prepare students for careers in child development, clothing and fashion merchandising, dietetics, food and nutrition, food science, teaching of home economics in junior and senior high schools, extension services, consumer services and public relations.

CLOTHING TEXTILES AND FASHION MERCHANDISING

Freshman Year

	Fall	Spring
English 100, 101	3	3
Mathematics 111, 115	4	3
History 100, 101	3	3
Physical Ed. 101, 102	1	1
Home Economics 101	1	
Home Economics 135 or equivalent		3
Home Economics 122, 123	2	3
Art 224 or 225	2	
	<u>16</u>	<u>16</u>

Sophomore Year

	Fall	Spring
Humanities 200, 201	3	3
*Natural Science	4	4
Economics 300 or 301		3
Art 226	3	
Speech 250		2
Home Economics 321		4
**Foreign Language	3	
Home Economics 310	3	
	<u>16</u>	<u>16</u>

Junior Year

	Fall	Spring
Home Economics 124 (424)		3
Business Ad. 220, 360	3	3
Business Ad. 340, 433	3	3
Accounting 221		3
Psychology 320		3
Home Economics 422 or 423		4
Home Economics 523	3	
Anthropology 200 or 300	3	
	<u>15</u>	<u>16</u>

Senior Year

	Fall	Spring
Home Economics 428		3
Home Economics 425		3
Home Economics 521, 427 or 624	4	3
Home Economics 401, 303	6	
Home Economics 525		3
Electives		3
	<u>13-14</u>	<u>16-17</u>

* Students interested in graduate study should select Chemistry 101 and 102 (Labs 111 and 112).

** Students may either take French 100 or 402; Spanish 100 or 401.

CHILD DEVELOPMENT CURRICULUM

Freshman Year

	Fall Semester	Spring Semester
English	100 (3)	101 (3)
Mathematics	101 (3)	102 (3)
History	100 (3)	101 (3)
Physical Education	101 (1)	102 (1)
Clothing, and Fashion Merchandising	122 (2)	
Home Economics	101 (1)	
Foods and Nutrition	133 (3)*	
Child Development		310 (3)
Health Education		200 (2)
	<u>16 hours</u>	<u>15 hours</u>

Sophomore Year

	Fall Semester	Spring Semester
Humanities	200 (3)	201 (3)
Psychology	320 (3)	
Child Development	311 (3)	312 (3)
Physical Science 100	100 (4)	
Biological Science		100 (4)
Sociology		100 (3)
Speech and Drama		250 (2)
Child Development	414 (3) +	415 (3) +
	<u>16 hours</u>	<u>18 hours</u>

Junior Year

	Fall Semester	Spring Semester
Child Development	416 (3) +	418 (3) +
Food and Nutrition	632 (3)	
Home Economics	400 (3)	403 (3)
Child Development		420 (3)
Psychology	435 (3)	434 (3)
Music		609 (3)
Art	100 (3)	
or	226	
or	600	
Electives		
	<u>18 hours</u>	<u>15 hours</u>

Senior Year

	Fall Semester	Spring Semester
Child Development	519 (3)	419 (3)
Child Development	417 (2)	
Child Development	612 (2)	
Home Economics		401 (3)
Electives	(6)	(8)
	<u>13 hours</u>	<u>14 hours</u>

* Equivalent

+ Must take in sequence to complete program on time.

† Take either semester.

* On leave.

HOME ECONOMICS EDUCATION

Freshman Year

Course and Number	Fall Semester Credit	Spring Semester Credit
English 100, 101	3	3
History 100, 101	3	3
Sociology 100 or 200	—	3
Home Economics 101	1	—
Physical Education 101 or 102	—	1
Mathematics 101, 102	3	3
Clothing, Textiles, Fashion Merchandising 122	2	—
Food and Nutrition 131	4	—
Biology 100	—	4
	<u>16</u>	<u>17</u>

Sophomore Year

	Fall Semester Credit	Spring Semester Credit
Chemistry 100, 110 and 104, 114	4	4
Art 226	3	—
Humanities 200, 201	3	3
Education 300, 301	2	2
Health Education 200	2	—
Food and Nutrition 135	—	3
Clothing, Textiles and Fashion Merchandising 122	2	—
	<u>17</u>	<u>16</u>

Junior Year

	Fall Semester Credit	Spring Semester Credit
Speech 250	—	2
Home Economics 300, 500	3	3
Child Development 310	—	3
Food and Nutrition 331	—	2
Home Economics 400, 502	5	—
Home Economics 503 or 504	2	—
Economics 300	3	—
Psychology 320	—	3
Education 436	3	—
Electives	—	3
	<u>16</u>	<u>16</u>

Senior Year

	Fall Semester Credit	Spring Semester Credit
Home Economics 401, 403	6	—
Home Economics 505, 604	3	2
Education 400, 528	6	—
Education 560	—	6
Education 637	—	3
Electives	—	3
	<u>15</u>	<u>14</u>

FOOD SCIENCE

Freshman Year

Course and Number	Fall Semester Credit	Spring Semester Credit
Mathematics 111, 112 or 113	4	4
English 100, 101	3	3
History 100, 101	3	3
BIO 140 or 100 or ZOO 160	4	—
Home Economics 101	1	—
Physical Education 246, 247	1	1
Health Education 200	—	2
Speech 251	—	3
	<u>16</u>	<u>16</u>

Sophomore Year

Mathematics 221 or 115	4-3	—
Chemistry 101, 111 and 102, 112	4	4
Food and Nutrition 236, 337	3	3
Humanities 200, 201	3	3
Sociology	3	—
Economics 300 or 301	—	3
Agricultural Economics 330	—	3
Electives	—	2
	<u>16-17</u>	<u>18</u>

Junior Year

Biology 121	4	—
Animal Science 312 or 340 or 556	3	—
English Literature	3	—
Social Science or Humanities Electives	3	6
Chemistry 221, 223	5	—
Chemistry 251, 252 or 231, 232	—	3-5
Food Science 638	—	3
Physics 225	—	4
	<u>18</u>	<u>16-18</u>

Senior Year (North Carolina A&T State University)

Food Science 643, 631, 135	9	—
Animal Science 618, 522	1	3
Biology 420	3	—
Major Area Electives	—	3
Supportive Electives (Biology 461 or Math 224)	—	4-3
Food and Nutrition 635	—	3
	<u>13</u>	<u>13-12</u>

Senior Year (North Carolina State University)

Food Science 201, 331, 490	6	1
Food Science 402, 405	6	—
Electives	—	17
	<u>12</u>	<u>18</u>

PROGRAM FOR THE OPTION IN FOOD AND NUTRITION

The option in food and nutrition provides preparation for a position as an assistant technician in a research laboratory but it is designed primarily for entrance in graduate study. A student desiring to meet the requirements of The American Dietetic Association for an approved internship may qualify by taking courses listed under *Requirements for Areas of Specialization in Dietetics*.

OPTION I: FOOD AND NUTRITION

Freshman Year

Course and Number	Fall Semester Credit	Spring Semester Credit
English 100, 101	3	3
Home Economics 101	1	—
Mathematics 111, 112	4	4
Physical Education 101, 102	1	1
History 100, 101	3	3
Chemistry 106, 116 and 007, 117	5	5
	<u>17</u>	<u>16</u>

Sophomore Year

Clothing, Textiles and Fashion Merchandising 122	2	—
Zoology 160, 461	4	4
Humanities 200, 201	3	3
Psychology 320	3	—
Bacteriology 121	—	4
Chemistry 221, 223, and 222, 224	5	5
	<u>17</u>	<u>16</u>

Junior Year

Food and Nutrition 337, 338	3	3
Chemistry 231, 232 and 651	5	5
Food and Nutrition 130, 331	4	2
Food and Nutrition 236	—	3
Physics 201	3	—
Electives	2	3
	<u>17</u>	<u>16</u>

Senior Year

Home Economics 401, 403	3	3
Food and Nutrition 635, 637	3	3
Electives	7	6
	<u>13</u>	<u>12</u>

PROGRAM FOR THE OPTION IN DIETETICS

Minimum Academic Requirements of The American Dietetic Association for Specialization in an Area of Dietetics

The program outlined below meets the minimum basic requirements of The American Dietetic Association. Areas of specialization should be selected in consultation with the academic advisor. Completion of the basic plus the area of specialization requirements which follow will prepare a graduate for an approved American Dietetic Association internship.

Freshman Year

Course and Number	Fall Semester Credit	Spring Semester Credit
English 100, 101	3	3
History 100, 101	3	3
Mathematics 101, 102	3	3
Physical Education 101, 102	1	1
Home Economics 101	1	—
CTFM 122	—	2
Chemistry 104, 114, 105, 115	4	4
	<u>15</u>	<u>16</u>

Sophomore Year

Zoology 160, 461	4	4
Humanities 200, 201	3	3
Psychology 320	3	—
Food Administration 344	3	—
Food Administration 345, 346	—	6
Food Nutrition 130 or 131, 331	4	2
Business Administration 220	—	3
	<u>17</u>	<u>18</u>

Junior Year

Economics 301	—	3
Food Nutrition 337, 236	3	3
Bacteriology 121	3	—
Psychology 435	3	—
Food Administration 448	4	—
Home Economics 403, 401	—	6
Area of Specialization Requirements and/or Electives	3	3
	<u>16</u>	<u>15</u>

Senior Year

Area of Specialization Requirements and/or Electives	15	15
	<u>15</u>	<u>15</u>

Electives to complete 124 semester hours for graduation and must meet Plan IV requirements and specialization(s) requirements. See Plan IV Sheet.

THE AMERICAN DIETETIC ASSOCIATION

COURSES TO MEET PLAN IV

Basic Requirements and Courses to Fulfill Requirements

Chem. inorganic	Chem. 104, 114
Chem. organic	Chem 105, 115
Microbiology	Bact. 121
Human Physio.	Bio. 461
Soc. or Psych.	Psy. 320
Econ.	Econ. 301
Food	FN 130 or 131, 236
Nutrition	FN 337
Mgmt. theory & prin.	BA 422
Writing	Eng. 101, 102
*Math	Math. 101, 102
Learning theory	FN 535

Area of Specialization in Dietetics

General

Biochem.	Chem. 251, 252
Anthro. of Soc.	Soc. 100
Food service system management	FN 344, 345, 448
Nutrition in Disease	FN 338
Data evaluation	Math. 224

OR

Management

Labor econ. or rel.	FN 345
Food service system management	FN 344, 448
Prin. bus. org.	BA 220, 522
Financial mgmt.	Acct. 221, 222
Data evaluation	Math. 224

OR

Clinical

Biochem.	Chem. 251
Biochem. analy.	Chem. 252
#Anatomy, adv. physio., or genetics	
Anthro. or Soc.	Soc. 100 or 200
Nutrition	FN 630
Nutr. in Disease	FN 338
Data Evaluation	Math. 224

OR

Community

Biochem.	Chem. 251, 252
Anthro.	Anthro. 200
Nutr. in Disease	FN 338
Nutr. & Comm. Health	H.Ec. 523**
Food Service System Management	FN 344, 345
Data evaluation	Math. 224
Electives Food and Nutrition	FN 332, 635, 637

* May be acquired prior to college entrance.

** Community Nutrition—School of Home Economics,
University of North Carolina at Greensboro (UNC-G)

Recommended, not required.

DIRECTORY OF FACULTY AND COURSES

Home Economics

Harold Mazyek, B.S., South Carolina State College; M.A., New York University; Ph.D., The University of North Carolina at Greensboro; Professor and Chairperson of Department

Ramona T. Clark, B.A.S.W., M.S.W., California State University; Ph.D., Oklahoma State University; Assistant Professor

Jane T. Walker, B.S., Appalachian State University; M.S., Virginia Polytechnic Institute and State University; Instructor

Seetha Ganapathy, B.S., University of Mysore; Ph.D., University of Bombay; Professor

Sara H. James, B.S., M.S., Virginia State University; Assistant Professor

Mary D. Litchford, B.S., M.S., University of Tennessee at Knoxville; Lecturer

Bobby L. Medford, B.A., M.A., Guilford College; Ph.D., The University of North Carolina at Greensboro; Assistant Professor

Eva E. Moore, B.S., West Virginia State College; M.S., University of Illinois; Ph.D., The University of North Carolina at Greensboro; Professor

Rosa Siler Purcell, B.S., North Carolina A. & T. State University; M.Ed., Ed.D., University of Illinois; Adjunct Assistant Professor

Chung Woon Seo, B.S., M.S., Korea University; Ph.D., Florida State University; Professor

Anna A. Simkins, B.S., M.S., Pennsylvania State University; Ph.D., The University of North Carolina at Greensboro; Associate Professor

Myrtle L. Smith, B.S., North Carolina Central University; M.S., Ph.D., Ohio State University; Professor

Eula King Vereen, R.D.; B.S., Tennessee State University; M.S., The University of North Carolina at Greensboro; Assistant Professor

Katye G. Watson, B.S., North Carolina A. & T. State University; Certificate, Nursery Training School of Boston; M.Ed., Tufts University; Assistant Professor

Wilda Wade, B.S., A&T State University; M.S., A&T State University; Agricultural Extension Faculty

Thelma Feaster, B.S., A&T State University; M.S., Case-Western University; Ph.D., Ohio State University; Agricultural Extension Faculty

Joseph Walker, B.S., Guilford College; M.S., UNC-G at Greensboro; Agricultural Extension Faculty

Ellen Smoak, B.S., UNC-G at Greensboro; M.Ed., UNC-G at Greensboro; Agricultural Extension Faculty

Sheila McDowell; B.S., N. C. Central; M.S., N. C. State University at Raleigh; Agricultural Extension Faculty

COURSES

Clothing, Textiles and Fashion Merchandising

122 Clothing Study and Selection

123 Textiles

424 History of Costume

126 Theory and Fundamental of Fashion Illustration

321 Basic Clothing Construction

422 Dress Design and Pattern Study

423 Advanced Clothing Construction

425 Aspects of Dress

426 Problems in Clothing

427 Problems in Textiles

428 Problems in Fashion Merchandising

521 Field Experience

523 Seminar in Fashion Apparel Fundamentals

525 Fashion Marketing and Merchandising

623 Textile Chemistry

624 Advanced Textiles

625 Experimental Clothing and Textiles

626 Tailoring

Child Development

310 Introduction to Human Development

311 Child Development I

312 Child Development II

414 Materials, Methods and Evaluation I

415 Materials, Methods and Evaluation II

416 Play Materials and Equipment for the Preschool Child

417 Parent Education

418 Curriculum in Preschool Education

420 Day Care Services

519 Practicum in Nursery School

612 Senior Seminar

- 715 Special Problems in Child Development
- 421 The Cognitively Oriented Preschool Curriculum
- 609 Adulthood
- 610 Human Ecology of the Family
- 613 Substance Abuse

Home Economics Education

- 101 Introduction to Home Economics
- 104 The Individual and His Family
- 105 Social Usage
- 200 Introduction to Home Economics Education
- 300 Program Planning in Home Economics K-12
- 301 Health and Home Nursing
- 323 Home Furnishings Laboratory
- 324 Fundamentals of Needle Crafts
- 400 Contemporary Housing
- 401 Marriage and Family Relations
- 403 Consumer Problems
- 500 Occupational Home Economics
- 502 Household Equipment
- 503 Interior Design
- 504 Home Furnishing
- 505 Home Management Residence
- 602 Adult Education in Home Economics
- 603 Special Problems in Home Economics I
- 604 Seminar in Home Economics Education
- 605 Home Economics Summer Study Abroad
- 606 Cooperative Extension
- 607 Cooperative Extension Field Experiences
- 608 Teaching Adults and Youth in Out-of-School Groups
- 614 Contemporary Issues in Home Economics
- 664 Occupational Exploration in Middle Grades
- 665 Occupational Exploration in the Middle Grades-Home Economics
- 706 Special Problems in Home Economics II, 706

Food Science, Dietetics and Food and Nutrition

- 135 Food and Man's Survival
- 130 Food Preparation
- 131 Elementary Food Preparation
- 133 Family Food
- 236 Introduction to Food Science
- 331 Meal Management
- 332 Cultural Aspects of Food
- 337 Introduction to Human Nutrition
- 338 Diet Therapy

- 344 Institution Organization and Management I
- 345 Institution Organization and Management II
- 346 Institution Purchasing
- 439 Child Nutrition
- 437 Cooperative Training in Industry I
- 447 Institution Equipment
- 448 Quantity Cookery
- 535 Nutrition Education
- 540 Geriatric Nutrition
- 544 Field Experience in Food Administration
- 549 Advanced Quantity Cookery
- 630 Advanced Nutrition
- 631 Advanced Food Science
- 632 Food and Nutrition in Early Childhood
- 635 Introduction to Research Methods in Food and Nutrition
- 636 Food Promotion
- 637 Special Problems in Food and Nutrition
- 645 Special Problems in Food Administration
- 646 Readings in Food Administration
- 647 Seminar in Food Administration

COOPERATIVE PROGRAM IN FOOD SCIENCE

The Food Science program emphasizes two types of training. (1) a co-operative program between North Carolina A&T State and North Carolina State University in Raleigh. In this program a student has 3 years at North Carolina A&T and the final year of professional study at North Carolina State University with emphasis on laboratory research, experimentation, and preparation for graduate study. (2) provides 4 years of Food Science at North Carolina A&T with the opportunity for the student to pursue supportive electives in such areas as Business Administration, Food and Nutrition, and Dairy Technology.

Food Science

- 135 Food and Man's Survival
- 136 Introduction to Food Science
- 337 Introduction to Human Nutrition
- AS 338 Regulatory and Quality Standards
- AS 340 Milk and Milk Products
- AS 312 Meat and Meat Products
- AS 522 Food Engineering
- AS 536 Food Plant Management
- AS 541 Food Packaging

- 547 Cooperative Training in Industry II
- AS 556 Poultry Products

Advanced Undergraduate and Graduate

- AS 618 Food Technology Seminar
- AS 629 Special Problems in Dairy Management
- 631 Advanced Food Science
- 635 Food Analysis
- 637 Special Problems in Food and Nutrition and Food Science
- 643 Food Preservation
- 647 Cooperative Training III

Course Descriptions are available upon request from the Dean of the School.

Department of Plant Science and Technology

Samuel J. Dunn, Chairperson

OBJECTIVES

The objectives of the Department of Plant Science and Technology are to meet its responsibilities to society by providing training for professional agriculturalists who can identify, analyze, and solve the problems of today, as well as new problems that may arise in the future. Realizing the dynamic and ever changing nature of modern society, the department seeks to minimize prescriptive procedures and seeks to provide its students with the tools of analysis and the facilities for applying the natural, physical and social sciences to thinking processes that will enable them to relate to man's present and future needs in managing his environment.

DEGREES OFFERED

Agricultural Technology—B.S.
Options: (Horticulture, Plant Science and Soil Science, and Agricultural/Industrial Technology.

Agricultural Science—B.S.
Options:

- A. Horticulture, Plant Science or Soil Science

- B. Agricultural Engineering
- C. Earth and Environmental Science
- Agricultural Business—B.S.
- Options: (Horticulture, Plant Science and Soil Science)
- Landscape Architecture—B.S.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree programs and qualification for the B.S. degree in Plant Science and Technology are based upon the general admission and graduation requirements of the University.

DEPARTMENTAL REQUIREMENTS

Majors in the Department of Plant Science and Technology must complete a minimum of 124 semester hours of University courses. Included in the 124 hours are thirty hours in a major elective depending on the option.

Suggested Curriculum Guide for Plant Science and Technology

PROGRAMS IN AGRICULTURAL TECHNOLOGY

The following options are offered in the Department of Plant Science and Technology leading to the B.S. degree in Agricultural Technology.

OPTION A—(HORTICULTURE, PLANT SCIENCE AND SOIL SCIENCE)

Freshman Year

<i>First Semester</i>	Credit
English 100	3
History 100	3
Chemistry 106	3
Chemistry 116	2
Mathematics 101	3
Agricultural Education 101	1
Air or Military Science (Elective)	1
	<hr/> 16

<i>Second Semester</i>	Credit
English 101	3
History 101	3
Chemistry 107	3
Chemistry 117	2
Mathematics 102	3
Agricultural Education 102	1
Air or Military Science or Elective	1
	<hr/> 16

Sophomore Year

<i>First Semester</i>	Credit
Humanities 200	3
Botany 140	4
Soil Science 338	4
Plant Science 110	3
Health Education 200	2
	<hr/> 16

<i>Second Semester</i>	Credit
Humanities 201	3
Zoology 160	4
Animal Science 301	3
Poultry Science 317	3
Air or Military Science (Elective)	3
	<hr/> 16

Junior Year

<i>First Semester</i>	Credit
Physics 211	3
Physics 216	1
Bacteriology 121	4
Economics 301	3
*Electives (Major Area)	6
	<hr/> 17

<i>Second Semester</i>	Credit
Physics 212	3
Physics 217	1
Plant Pathology 530	4
Agricultural Economics 330	3
*Electives (Major Area)	6
	<hr/> 17

Senior Year

<i>First Semester</i>	Credit
Plant Propagation 334	3
Agricultural Engineering 303	3
Plant Science Seminary 520	1
Electives (Major Area)	10
	<hr/> 17

* The 30 credits required as major electives in Plant Science and Soil Science are to be taken such that 12 credits are elected from supporting courses; 18 credits are elected from one of the optional areas with approval of the advisor.

<i>Second Semester</i>	Credit
Geology 390	3
Agricultural Engineering	3
Plant Science Seminar 520	1
Electives (Major Area)	10
	<hr/> 17

PROGRAMS IN AGRICULTURAL SCIENCE

The following options are offered in the Department of Plant Science and Technology leading to the B.S. degree in Agricultural Science:

- A. Options in Horticulture, Plant Science, or Soil Science
- B. Option in Agricultural Engineering Science
- C. Option in Earth and Environmental Science

OPTION A—HORTICULTURE, PLANT SCIENCE, SOIL SCIENCE

Freshman Year

<i>First Semester</i>	Credit
English 100	3
History 100	3
Chemistry 106	3
Chemistry 116	2
Mathematics 111	4
Agricultural Education 101	1
Air or Military Science or (Elective)	1
	<hr/> 17

<i>Second Semester</i>	Credit
English 101	3
History 101	3
Chemistry 107	3
Chemistry 117	2
Mathematics 131	4
Agricultural Education 102	1
Air or Military Science or (Elective)	1
	<hr/> 17

Sophomore Year

<i>First Semester</i>	Credit
Humanities 200	3
Soil Science 338	4
Poultry Science 317	3
Plant Science 110	3
Air or Military Science or (Elective)	3
	<hr/> 16

<i>Second Semester</i>	Credit	Sophomore Year		<i>Second Semester</i>	Credit
Humanities 201	3	<i>First Semester</i>	Credit	English 101	3
Zoology 160	4	Chemistry 101	4	History 101	3
Animal Science 301	3	Math 113	3	Chemistry 107	3
Health Education	2	Humanities 200	3	Chemistry 117	2
Air or Military Science or (Elective)	4	Industrial Technology 293	3	Mathematics 132	4
	<u>16</u>	Industrial Technology 472	4	Agri. Engr. 100	3
			<u>17</u>		<u>18</u>
Junior Year		<i>Second Semester</i>	Credit	Sophomore Year	
<i>First Semester</i>	Credit	Chemistry 102	4	<i>First Semester</i>	Credit
Physics 211	3	Math 240	3	Humanities 200	3
Physics 216	1	Humanities 201	3	Physics 221	3
Chemistry 221	3	Speech 250	2	Physics 231	2
Chemistry 223	2	Accounting 221	3	Soil Science 338	4
Botany 140	4		<u>15</u>	Mathematics 300	4
Electives (Major Area)	4			Electives	2
	<u>17</u>	Junior Year			<u>18</u>
<i>Second Semester</i>	Credit	<i>First Semester</i>	Credit	<i>Second Semester</i>	Credit
Physics 212	3	Physics 211	4	Humanities 201	3
Physics 217	1	Psychology 320	3	Physics 222	3
Chemistry 222	3	Business Administration 420	3	Physics 232	2
Chemistry 224	2	Industrial Technology 491	3	Mech. Engr. 335	3
Economics 301	3	Agricultural Engineering 304	3	Mathematics 240	3
Electives (Major Area)	5		<u>16</u>	Electives	4
	<u>17</u>	<i>Second Semester</i>	Credit		<u>18</u>
Senior Year		Physics 212	4	Junior Year	
<i>First Semester</i>	Credit	Business Administration 422	3	<i>First Semester</i>	Credit
Mathematics 224	3	Agricultural Eng. 523	3	Soil Physics 532	4
Bacteriology 121	4	Statistics 305	3	Economics 301	3
Electives (Major Area)	8	Agricultural Eng. 401	3	Mech. Engr. 336	3
	<u>15</u>		<u>16</u>	Mech. Engr. 346	1
<i>Second Semester</i>	Credit	Senior Year		Agri. Engr. 401	3
Agricultural Economics 330	3	<i>First Semester</i>	Credit	Agri. Engr. 303	3
Electives (Major Area)	12	Business Administration 522	3		<u>17</u>
	<u>15</u>	Business Law 451	3	<i>Second Semester</i>	Credit
		Economics 301	3	Bacteriology 121	4
OPTION B—AGRICULTURAL/ INDUSTRIAL TECHNOLOGY		Agricultural Economics 330	3	Agri. Econ. 330	3
		Electives	3	Mech. Engr. 337	3
			<u>15</u>	Econ. 305	3
Freshman Year		<i>Second Semester</i>	Credit	Agri. Engr. 304	3
<i>First Semester</i>	Credit	Industrial Technology 493	3		<u>16</u>
English 100	3	Business Law 452	3	Senior Year	
Math 111	4	Agricultural Eng. 402	3	<i>First Semester</i>	Credit
Botany 140	4	Electives	6	Agri. Engr. 402	3
Mechanical Engineering 101	3		<u>15</u>	Mech. Engr. 416	3
History 100	3			Mech. Engr. 426	1
	<u>17</u>	OPTION B—AGRICULTURAL ENGINEERING SCIENCE		Agri. Engr. 523	3
<i>Second Semester</i>	Credit	Freshman Year		Botany 140	4
English 101	3	<i>First Semester</i>	Credit	Electives	3
Agricultural Eng. 100	3	English 100	3		<u>17</u>
Zoology 160	4	History 100	3		
Mechanical Engineering 102	3	Chemistry 106	3		
History 101	3	Chemistry 116	2		
	<u>16</u>	Mathematics 131	4		
		Mech. Engr. 101	3		
			<u>18</u>		



<i>Second Semester</i>	<i>Credit</i>
Agri. Engr. 600	3
Mech. Engr. 441	3
Agri. Engr. 524	3
Agri. Engr. 602	3
Electives	5
	<u>17</u>

**Supporting Courses: Earth Science 201, 330, 622, 627; ME 210, 564; EE 441; Biology 160; Econ. 310; Plant Science 520; Agri. Engr. 525.*

**Electives may be selected from these courses.*

OPTION C—EARTH AND ENVIRONMENTAL SCIENCE

Freshman Year

<i>First Semester</i>	<i>Credit</i>
English 100	3
History 100	3
Mathematics 111	4
Physical Education 101	1
Plant Science 110	3
Chemistry 106	3
Chemistry 116	2
	<u>19</u>

<i>Second Semester</i>	<i>Credit</i>
English 101	3
History 101	3
Mathematics 113	4
Physical Education 102	1
Elective (Major Area)	3
Chemistry 107	3
Chemistry 117	2
	<u>19</u>

Sophomore Year

<i>First Semester</i>	<i>Credit</i>
Humanities 200	3
Botany 140	4
Soil Science 338	4
Geography 322	3
Earth Science 309	3
	<u>17</u>

<i>Second Semester</i>	<i>Credit</i>
Humanities 201	3
Zoology 160	4
Bacteriology 121	4
Mathematics 224	3
Earth Science 624	3
	<u>17</u>

Junior Year

<i>First Semester</i>	<i>Credit</i>
Chemistry 221	3
Chemistry 223	2
Physics 211	3
Physics 216	1
Earth Science 330	3
Agricultural Engineering 304	3
Plant Science 520	1
	<u>16</u>

<i>Second Semester</i>	<i>Credit</i>
Chemistry 222	3
Chemistry 224	2
Physics 212	3
Physics 217	1
Agricultural Engineering 401	3
Mathematics 240	3
Plant Science 520	1
	<u>16</u>

Senior Year

<i>First Semester</i>	<i>Credit</i>
Earth Science 616	3
Agricultural Engineering 524	3
Crop Science 607	3
Electives (Major Area)	6
	<u>15</u>

<i>Second Semester</i>	Credit
Earth Science 626	3
Forestry 618	3
Electives (Major Area)	9
	<hr/> 15

PROGRAM IN AGRICULTURAL BUSINESS

The Agricultural Business curriculum in the Department of Plant Science and Technology is mainly designed to serve those majors who are interested in the commercial aspects of Ornamental Horticulture, Nursery Management and Greenhouse Production.

Freshman Year

<i>First Semester</i>	Credit
English 100	3
History 100	3
Botany 140	4
Mathematics 101	3
Agricultural Education 101	1
Air or Military Science (Elective)	1
	<hr/> 15

<i>Second Semester</i>	Credit
English 101	3
History 101	3
Zoology 160	4
Mathematics 102	3
Agricultural Education 102	1
Air or Military Science (Elective)	1
	<hr/> 15

Sophomore Year

<i>First Semester</i>	Credit
Humanities 200	3
Chemistry 106	3
Chemistry 116	2
Economics 301	3
Soil Science 338	4
Air or Military Science (Elective)	2
	<hr/> 17

<i>Second Semester</i>	Credit
Humanities 201	3
Chemistry 107	3
Chemistry 117	2
Agricultural Economics 330	3
Plant Science 110	3
Health Education 200	2
	<hr/> 16

Junior Year

<i>First Semester</i>	Credit
Bacteriology 121	4
Agricultural Economics 332	3
Soil Science 517	3
Plant Science 520	1
Electives (Major Area)	6
	<hr/> 17

<i>Second Semester</i>	Credit
Plant Pathology 530	4
Agricultural Economics 334	3
Geology 309	3
Plant Science 520	1
Electives (Major Area)	6
	<hr/> 17

Senior Year

<i>First Semester</i>	Credit
Entomology 468	4
Business Administration 204	3
Business Law 451	3
Electives (Major Area)	7
	<hr/> 17

<i>Second Semester</i>	Credit
Plant Taxonomy 430	4
Business Management 305	3
Electives (Major Area)	10
	<hr/> 17

LANDSCAPE ARCHITECTURE

Landscape Architecture is concerned with quality of land use. It includes analysis of environmental and social factors and recommendations for preservation, design, construction and maintenance of developed land areas. The scope of activities of projects vary from broad, regional landscape planning analysis to detailed site planning.

This curriculum is planned to equip the student to deal with a wide range of environmental problems. A sequence of required courses develops understanding of landscape design theory and practice and construction techniques. Elective and optional course offerings provide the student an opportunity to concentrate in an area of individual interest.

The student majoring in landscape architecture may select one of three optional elective tracks: (1) urban advocacy, (2) regional planning, or (3) office practice/governmental administration.

The curriculum is a sequence of three levels. After completing the basic level, a review will be scheduled for each student majoring in land-

scape architecture. The students must have a cumulative grade point average of 2.0 in order to advance to the next level. A second review and recommendations will be scheduled after completing the intermediate level. Students who have earned an accumulative average of 3.0 or above may be excused from this review process.

The following curriculum leads to the Bachelor of Science in Landscape Architecture.

LANDSCAPE ARCHITECTURAL CURRICULUM

Freshman Year

<i>First Semester</i>	Credit
English 100	3
History 100	3
Math 111	4
Botany 140	4
Art 220	2
Landscape Architecture 101	1
	<hr/> 17

<i>Second Semester</i>	Credit
English 101	3
History 101	3
Math 112	4
Hort. 202	3
Landscape Architecture	3
Sociology 100	3
	<hr/> 18

Sophomore Year

<i>First Semester</i>	Credit
Humanities 200	3
Hort. 203	3
Geography 200	3
Landscape Architecture 240	3
Architecture Engineering 221	3
Landscape Architecture 230	3
	<hr/> 18

<i>Second Semester</i>	Credit
Agricultural Engineering 401	3
Humanities 201	3
Chemistry 101 (General)	3
Chemistry 101 (Lab)	1
Architectural Engineering 222	3
Landscape Architecture 241	3
Speech 250	2
	<hr/> 18

Junior Year

<i>First Semester</i>	Credit
Landscape Architecture 310	3
Landscape Architecture 340	4
Landscape Architecture 330	4
Soil Science 338	4
Electives	2
	<hr/> 17

<i>Second Semester</i>	Credit
Geology 309	3
Landscape Architecture 341	4
Landscape Architecture 331	4
Electives	6
	<hr/> 17

Senior Year

<i>First Semester</i>	Credit
Economics 301	3
Landscape Architecture 440	4
Architectural Engineering 566	4
Landscape Architecture 529	3
Electives	3
	<hr/> 17

<i>Second Semester</i>	Credit
Landscape Architecture 441	4
Landscape Architecture 410	2
Landscape Architecture 420	2
Electives	6
	<hr/> 14

OPTIONAL ELECTIVE TRACKS:

Students will be required to elect a minimum of 12 semester hours from one of the optional elective tracks. Five semester hours of free electives are provided under the curriculum. All programs of study shall have the approval of the student's major advisor and the Department.

Urban/Advocacy:

	Credit
Political Science 442	3
Political Science 643	3
Business Administration 610	3
	<hr/>
	Credit
Sociology 313	3
Sociology 505	3
Architectural Engineering 567	3

Regional:

Geography 650	3
Geography 651	3
Earth Science 408	3
Political Science 441	3
Sociology 313	3
	<hr/>
Rural Sociology 330	3
Plant Science 618	3
Math 240	3
Environmental Science 625	3

DIRECTORY OF FACULTY AND COURSES

Plant Science and Technology

Samuel J. Dunn, B.S., Hampton Institute; M.S., Michigan State University; Ph.D., Oregon State University; Professor and Chairperson

McKinley A. DeShield, B.S., North Carolina A & T State University; M.S., Cornell University; Ph.D., University of Nottingham; Adjunct Professor

Charles A. Fountain, B.S., Hampton Institute; M.S., Michigan State University; M.L.A., University of California; Ph.D., Michigan State University; Professor

Godfrey A. Gayle, B.S., North Carolina A & T State University; M.S., Ph.D., N. C. State University; Asst. Prof.

Tyrone M. Goddard, B.S., North Carolina A & T State University; M.S., University of Illinois; Urbana-Champaign; Adjunct Assistant Professor

Daniel M. Lyons, B.S., M.S., North Carolina A & T State University; Ph.D., VPI State Univ.; Adjunct Professor

Mansel P. McCleave, B.S., M.S., North Carolina A & T State University; Instructor

Charles A. Panton, B.S., North Carolina A & T State University; M.S., Purdue University; Ph.D., University of Lund, Sweden; Associate Professor

Carol E. Parker, B.S., Cornell University; M.S., Ph.D., University of North Carolina at Chapel Hill; Adjunct Professor

G. Bhaskar Reddy, B.S., M.S., A.P.A.U., Indian; Ph.D., University of Georgia; Assistant Professor

Muchha R. Reddy, B.S., Osmania University, India; M.S., A.P., Agricultural University, India; Ph.D., University of Georgia; Assistant Professor

Burleigh C. Webb, B.S., North Carolina A & T State University; M.S., University of Illinois; Ph.D., Michigan State University; Professor

Clyde E. Chesney, B.S., North Carolina State at Raleigh; M.S., North Carolina State at Raleigh; Ph.D., Michigan State University; Agricultural Extension Faculty

COURSES

Plant Science

110 Plant Science I
300 Plant Science II
520 Seminar in Plant Science and Technology
618 General Forestry

Agricultural Engineering

Agricultural Drawing
114 Home and Farm Maintenance
303 Field Machinery
304 Structures and Environment
401 Surveying, Drainage, and Soil Conservation
402 Farm Power
Dairy Engineering
523 Electric Power
524 Water Supply and Sanitation for Farm and Home
525 Farm Shop Organization and Management
600 Conservation, Drainage and Irrigation
601 Advanced Farm Shop
602 Special Problems in Agricultural Engineering

Crop Science

307 Forage Crops
405 Determining Crop Quality
603 Plant Chemicals
604 Crop Ecology
605 Breeding of Crop Plants
606 Special Problems in Crops
607 Research Design and Analysis
702 Grass Land Ecology

Earth and Environmental Science

201 The Earth—Man's Environment
309 Elements of Physical Geology
330 Elements of Weather and Climate
408 Aerial Photointerpretation
622 Environmental Sanitation and Waste Management
624 Earth Science, Geomorphology
625 Earth Resources
626 Aquaculture
627 Strategies of Conservation
704 Problem Solving in Earth Science
705 The Physical Universe
706 Physical Geology
708 Conservation of Natural Resources

709 Seminar In Earth Science
616 Environmental Planning &
Natural Resources Management

Horticulture

118 Amateur Floriculture
119 The Functional Usage of
Plant Materials
334 Plant Propagation
335 Principles of Landscape Design
514 Nursery Management
527 Basic Floral Design
528 Flower Shop Management

529 Landscape Design and Construc-
tion I
530 Landscape Design and Construc-
tion II
608 Special Problems in Horticulture
610 Commercial Greenhouse Produc-
tion I
611 Commercial Greenhouse Pro-
duction
612 Plant Materials and Landscape
Maintenance
613 Plant Materials and Planning
Design

Soil Science

338 Fundamentals of Soil Science
516 Soil Pedology
517 Soil Fertility
518 Soil Fertility Laboratory
532 Soil Physics
533 Soil Genesis and Classification
534 Soil Chemistry
609 Special Problems in Soils
710 Soils in North Carolina

*Course descriptions are available upon
request from the Dean of the School.*



SCHOOL OF ARTS AND SCIENCES

William B. DeLauder, Dean
Ethel F. Taylor, Assistant Dean

OBJECTIVES

The School of Arts and Sciences introduces the student to many fields of human interests and assists him in acquiring knowledge in the fields of liberal arts and sciences. Its primary aim is to provide a liberal and professional education intended to prepare the student to perform in a wide variety of employment situations. In fulfilling its primary purpose, the School endeavors to provide opportunities for the student to acquire the knowledge, perceptions, values, and skills needed for personal development and social usefulness. It also strives through its formal curriculum and co-curriculum programs to achieve the following objectives:

1. To provide courses in general education for all students.
2. To provide courses of instruction for in breadth and in depth studies in the humanities, natural sciences and mathematics, and the social sciences.
3. To provide an opportunity for the student to acquire the tools or methods with which to gather, analyze, and evaluate information as well as the skills to communicate his thinking to others.
4. To provide the opportunity for individual creativity and development through research and other activities which inspire creativity, self-discipline, and self-criticism.
5. To provide an academic base on which individuals may enter graduate areas of specialization.

DEGREES OFFERED

The School of Arts and Sciences is comprised of thirteen departments and programs offering undergraduate majors leading to the Bachelor of Arts or the Bachelor of Science and a

Master's program leading to the Master of Arts or the Master of Science in several fields. The Bachelor of Arts degree is offered with major programs of study in Art, English, French, History, Music, Political Science, Psychology, Sociology, and Speech and Theater Arts. The Bachelor of Science degree is offered with major programs of study in Biology, Chemistry, Computer and Information Sciences, Mathematics, Physics, and Social Work. Many degree programs may be pursued jointly with professional education courses (offered in the School of Education). Graduates of these programs qualify for certification to teach in the secondary schools. In addition, the Mathematics and Physics Departments have joint degree programs with the School of Engineering in Engineering Mathematics and Engineering Physics. Concentrations are available for students interested in journalism, radio, television, and speech pathology and audiology.

DEGREE REQUIREMENTS

To attain the baccalaureate degree in the School of Arts and Sciences, a students must satisfactorily complete the requirements of his/her major field, the general education studies and a sufficient number of electives to total 124 credits. The minimum scholastic average required for graduation in any department degree program is a 2.0 average in all major courses in addition to the overall grade point average requirement of 2.0.

ACCREDITATION

Programs in the School of Arts and Sciences that are approved by national accreditation organizations are as follows:

—The Department of Chemistry is accredited by the American Chemical Society.

—The undergraduate program in Social Work is approved by the Council on Social Work Education.

—The Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education.

CAREER OPPORTUNITIES

The curricula of the School prepare students for careers in teaching, research, social work, journalism, radio and television, the creative arts, industry and government. Within the professional curricula, students may pursue studies which lead to careers in law, medicine, dentistry, librarianship, teaching and the ministry.

SEMESTER LOAD LIMIT

The normal schedule is 15-16 semester hours for a semester. No student may register for more than 18 semester hours per semester without permission of the Dean.

ACADEMIC ADVISEMENT

To assist students in meeting graduation requirements, a system of student advisement is provided in all departments. Academic advising is essential for assuring the student that the programs of study he/she is pursuing include the requirements of his/her particular department and desired degree. It assists also in helping students make maximum use of the learning opportunities in the University and in helping them with academic problems.

ADMISSION REQUIREMENTS

Admission requirements for the School of Arts and Sciences are the same as those for the University. Requirements for graduation vary from department to department, so students must be certain to satisfy departmental requirements. Students are responsible for meeting all academic requirements for graduation.

GENERAL EDUCATION PROGRAM REQUIREMENTS

The purposes of the general education program of the School of Arts and Sciences are to prepare students to enter the specialized part of their university education, and to provide essential elements of a higher education not necessarily included in students' specialties. Accordingly, the general education curriculum of the School of Arts and Sciences is designed to:

1. Insure that students acquire basic skills in communication (reading, writing, speaking, and listening) and mathematics;

2. Develop in students a capacity for sustained analysis that is critical, reasoned, informed, and independent, and acquaint students with the ethical, political, and cultural issue concerning which value judgments must be made and responsibilities assumed;

3. Acquaint students with the use of the scientific method in both the natural and the social sciences and provide students with facts, concepts, and theories concerning the natural and social environments;

4. Impart to students the ideas, values, and events that make up their cultural tradition, familiarize them with the comparable experiences of other cultures, and deepen students' sensitivities through experiencing works of the imagination;

5. Create in students a positive attitude towards their fields of endeavor and improve in them those

skills which will be useful for further study and competency in their areas of specialization;

6. Acquaint students with good health practices and creative uses of leisure time and strengthen the students' self-images to enable them to deal constructively with changes in a technological and computerized world while maintaining high moral standards and aesthetic values.

To achieve the above purposes, the School has developed a set of general requirements from which the student must choose sixteen courses in five fields. The general education requirements are listed below:

- I. English Composition
2 courses required
- II. Science (Natural and Physical) and Mathematics
2 courses required
—Chemistry, Botany, Zoology, and Physics
2 courses required—
Mathematics

III. Foreign Languages

2 courses required

—Spanish, French, German, Russian

IV. Science (Social & Behavioral)

4 courses required

—Anthropology, Economics, Geography, History, Political Science, and Sociology

V. Humanities

4 courses required

—Art, English, Humanities, Music, Philosophy, and Speech

Certain courses require specific prerequisites; therefore, each student should select courses with this fact in mind.

Certain majors require specific courses, so each student must be knowledgeable about departmental requirements in selecting these courses.

Students planning to enter teaching fields should be knowledgeable of the semester hour requirements.

Students should be aware also that satisfactory advanced placement scores and/or comparable experien-



tial evidence may be used to satisfy some of the requirements for a baccalaureate degree. Students should consult the chairperson of their respective department(s) for information.

SCHOOL HONORS PROGRAM

The Honors Program in the School of Arts and Sciences is a plan for exceptionally promising and talented students. Honors students take honors courses in the general studies and major fields. Those whose major departments offer honors curricula have opportunities to intensify and increase in-depth knowledge of their major field and its relationship to other fields. Honors students can further enhance their studies through honors seminars, independent research and other special activities. Entering freshmen who are recommended by their high school principal and counselor and who have SAT scores ranging from 800 and above will be eligible to apply. All students who participate must complete an application form and have an overall GPA of at least 3.0 and a departmental GPA of 3.0.

Each Honors Program student will have a committee composed of at least one (1) faculty member from his major department along with the Honors Program Coordinator to assist him in planning his Honors curriculum. During the last semester before graduation, the student's honors committee will review the performance of all participating students who have successfully completed 12 hours of Honors Program work with a minimum grade of "C" in each course to determine if the student should be recommended for graduation from the Honors Program. Students who successfully complete the Honors Program will receive citations as "Honors Program Graduate" on their transcripts and diplomas and will be given special recognition at Commencement.

Interested students should contact the office of the Dean of the School of Arts and Sciences for application information. The formal application must be received at least six (6) weeks prior to the beginning of the semester for which enrollment in the Honors Program is desired.

Department of Art

LeRoy F. Holmes, Jr., Chairperson

The objectives of the Art Department are simple and direct; to guide the students through carefully planned classroom, studio, and working experiences, to develop their aesthetic sensibilities, technical ability and to broaden their general education. This basic preparation lays a foundation for further study, careers as creative artists and art teachers.

DEGREES OFFERED

Art Design—B.A.
Art Painting—B.A.
Art Education—B.S.
*Art, Secondary Education—M.S.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree programs in the Department of Art is based upon general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

Art Major—The major in art must complete 124 semester hours of University courses. Included in the 124 semester hours are 40/58 hours of art in courses at the 200 level or above. A minimum grade of "C" must be achieved in these courses.

In the advance studio courses, students may expect to purchase certain materials which are not supplied by the Art Department. These materials may cost from \$5.00 to \$45.00 depending on the courses taken by the student.

* See *Graduate Bulletin* for details.

Suggested Curriculum Guide for a Design Major in Art

Freshman Year

<i>First Semester</i>	Credit
Art 100	3
Art 224	2
Behavioral Science (elective)	3
Physical Education 200	2
English 100	3
Mathematics 101	3
	<hr/> 16

<i>Second Semester</i>	Credit
Art 101	3
Art 225	2
Behavioral Science (elective)	3
English 101	3
Mathematics 102	3
	<hr/> 14

Sophomore Year

<i>First Semester</i>	Credit
Art 226	3
Behavioral Science (elective)	3
Biological Science 100	4
Electives	2
Humanities (elective)	3
Humanities (elective)	3
	<hr/> 18

<i>Second Semester</i>	Credit
Art 222	3
Art 227	3
Art 229	3
Humanities (elective)	3
Physical Science 100	3
Physical Science 110	1
	<hr/> 16

Junior Year

<i>First Semester</i>	Credit
Art 400	2
Art 401	3
Art 459	2
Behavioral Science (elective)	3
Electives	3
Foreign Lang./French/German	3
	<hr/> 16

<i>Second Semester</i>	Credit
Art 228	3
Art 402	3
Foreign Lang./French/German	3
Humanities (elective)	3
Engineering Graphics	3
	<hr/> 15

Senior Year

<i>First Semester</i>	Credit
Art 520	2
Art 524	3
Art 405	3
Art 406	3
Art 455	3
	<hr/> 14

<i>Second Semester</i>	Credit
Art 525	3
Art 526	3
Art 456	3
Electives	6
	<hr/> 15

Painting Option

The same as Design Option except Art 528 and 529 are substituted for Art 455 and 456.

Suggested Curriculum Guide for a Teaching Major in Art

Freshman Year

<i>First Semester</i>	Credit
Art 100	3
Education 100	1
English 100	3
History 100	3
Mathematics 101	3
Physical Education	1
Electives	2
	<hr/> 16

<i>Second Semester</i>	Credit
Art 101	3
Electives	3
English 101	3
History 101	3
Mathematics 102	3
Physical Education 200	2
	<hr/> 17

Sophomore Year

<i>First Semester</i>	Credit
Art 224	2
Art 226	3
Education 300	2
Foreign Language	3
Humanities 200	3
Psychology 320	3
Physical Education	1
	<hr/> 17

<i>Second Semester</i>	Credit
Art 225	2
Art 227	3
Education 301	2
Foreign Lang./French/German	3
Humanities 201	3
Electives	3
	<hr/> 16

Junior Year

<i>First Semester</i>	Credit
Art 400	2
Art 405	3
Physical Science 100	3
Physical Science 110	1
Art 600	3
Electives	3
	<hr/> 15

<i>Second Semester</i>	Credit
Art 229	3
Art 401	3
Biological Science 100	4
Education 400	3
Speech 250	2
	<hr/> 15

Senior Year

<i>First Semester</i>	Credit
Art 454	3
Art 459	2
Art 520	2
Art 524	3
Education 436	3
	<hr/> 13

<i>Second Semester</i>	Credit
Education 500	3
Education 525	3
Education 560	6
Education 637	3
	<hr/> 15

Teaching Major in Art—The teaching major in art must complete a minimum of 124 semester hours of University courses. Included in these 124 hours are thirty semester hours of art courses at the 200 level or above with grades of "C" or better.

CAREER OPPORTUNITIES

The programs offered by the Department of Art prepare students for such careers as commercial artists, draftsmen, illustrators, free-lance artists, directors and supervisors of art agencies, art teachers, and art supervisors.

DIRECTORY OF FACULTY AND COURSES

Art

LeRoy F. Holmes, Jr., A.B., Howard University; A.M., Harvard University; Associate Professor and Chairperson
Theresa A. McGeady, A.B., Immaculata College; M.A., M.F.A., University of Notre Dame; Ph.D., Ohio University; Associate Professor

James E. McCoy, B.S., North Carolina College; M.A., Columbia University; Assistant Professor
Stephanie A. Santmyers, B.F.A., Alfred University; M.S., Illinois State University; M.F.A., University of North Carolina at Greensboro; Assistant Professor
Henry E. Sumpter, B.A., North Carolina Agricultural & Technical State University; M.F.A., University of North Carolina at Greensboro; Assistant Professor

Courses

- 100 Basic Drawing and Composition
- 101 Lettering and Poster Design
- 220 Graphic Presentation I
- 221 Graphic Presentation II
- 222 Watercolor
- 224 Art Appreciation
- 225 An Introduction to the History of Art
- 226 Design I
- 227 Design II
- 228 Color Theory
- 229 Anatomy and Figure Drawing
- 400 Renaissance Art
- 401 Ceramics
- 402 Basic Sculpture
- 403 Jewelry and Metalwork
- 405 Materials and Techniques
- 450 Advertising Design I
- 451 Advertising Design II
- 452 Commercial Art
- 453 Typography
- 454 General Crafts
- 455 Fabric Design and Basic Weaving
- 456 Fabric Painting and Weaving
- 457 Stage Design and Marionette Production I
- 458 Stage Design and Marionette Production II
- 459 Baroque and Rococo Art
- 520 Modern Art
- 524 Introduction to Graphic Arts
- 525 Lithography and Serigraphy
- 526 Senior Project
- 528 Painting I
- 529 Painting II
- 600 Public School Art
- 602 Seminar in Art History
- 603 Studio Techniques
- 604 Ceramic Workshop
- 605 Printmaking
- 606 Sculpture
- 607 Project Seminar
- 608 Arts and Crafts

Course descriptions are available upon request from the Dean of the School.

Department of Biology

A. James Hicks, Chairperson

OBJECTIVES

The objectives of the Biology Department are (1) to provide the opportunity for an academic background in the life sciences as a part of the general education for the student population at the University; (2) to prepare students to teach biology; (3) to prepare students to meet basic admission requirements of graduate and professional schools (i.e. medical, dental and veterinary science); (4) to prepare professional biologists; and (5) to provide cognate courses for students majoring in or receiving certification in other fields, including agricultural sciences, home economics, nursing, horticulture, and physical education.

DEGREES OFFERED

Biology (Preprofessional)—B.S.
Biology (Secondary Education)—B.S.

*Biology—M.S.

*Biology, Secondary Education
M.S.

The curricula of the two undergraduate programs listed above are similarly structured in the freshman and sophomore years. The course requirements of the upper level of these programs vary in that each is geared toward its specific goal. Students have the option to complete both the pre-professional and secondary education sequences.

Biology majors may elect to follow a 3-2 (years) curriculum sequence in Physical Therapy, Dental Hygiene and Radiologic Science at A & T and compete for entry into respective programs at UNC-Chapel Hill and other schools. Individuals completing these sequences will receive a B.S. in biology from A & T and a B.S. in the selected area from UNC-Chapel Hill or the other schools. Prospective students should consult the department for additional information, including advisement.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree programs in the Department of Biology is based upon the general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

Biology Major—Biology majors are required to complete a minimum of 124 hours for graduation. In the "pre-professional sequence", the student is required to complete a minimum of 39 semester hours of biology and 45 semester hours of supporting courses. The remaining courses satisfy the University's general education requirements.

Teaching Major in Biology—Majors following the "teacher education sequence" are required to complete a minimum of 129 semester hours of University courses. Included in these 129 hours are a minimum of 34 semester hours of biology and 69 semester hours of supporting courses. The remaining courses satisfy the University's general education requirements. A student may also be expected to complete a one semester practicum in the department.

SUPPORT/TUTORIAL PROGRAMS

The department offers tutorial and other academic support programs for students who need assistance. A range of biology topics are available on video cassette, standard cassette and color slide-cassette tape formats in the Self-Help Center.

ENRICHMENT PROGRAMS

Enrichment programs designed to increase the knowledge and competitiveness of biology majors are as follows:

1. Departmental Seminars (including the Artis P. Graves Lecture Series and MARC Honors Colloquium). Researchers from industry, medical institutions, research laboratories and universities deliver talks on current findings on various life science topics. Open to *all* students.

2. Health Careers Academic Advancement Program (HCAAP). HCAAP is an academic skills improvement program for persons interested in health careers. Sophomores through seniors may apply. Consult the health careers advisor.
3. Minority Access to Research Careers (MARC). The MARC Honors Program is designed to give outstanding students greater research experience. Open to juniors and seniors. Stipends available. Consult the MARC Program Coordinator.
4. Other selected students may gain research experience through participation in the Minority Biomedical Research Support Program (M.B.R.S.), and funded faculty research.
5. Student Clubs. Biology majors are strongly encouraged to participate in the Biology Club and/or the Health Careers Club. Open to *all* majors. Consult the respective Club advisors.

ACCREDITATION

All Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education and approved by the North Carolina State Department of Public Instruction

CAREER OPPORTUNITIES

A degree in the biological sciences provides a background for students preparing for careers in such fields as industry, professional biology, medical, dental and veterinary sciences and the allied health fields (i.e. dental hygiene, physical therapy, radiologic sciences, etc.). Further, the department's curriculum sequences provide the opportunity for students preparing for teacher education in biology, and for those entering graduate programs in the life sciences.

* See the Bulletin of the Graduate School

Suggested Curriculum Guide for A Biology Major

Bachelor of Science

1. Preprofessional Sequence

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Math 111	4
Physical Education 101	1
Biology 160	4
Chemistry 106	3
Chemistry 116	2
	<u>17</u>

<i>Second Semester</i>	Credit
English 101	3
Math 112	4
Physical Education 102	1
Biology 140	4
Chemistry 107	3
Chemistry 117	2
	<u>17</u>

Sophomore Year

<i>First Semester</i>	Credit
Chemistry 221	3
Chemistry 223	2
Education 300	2
Speech 250	2
Biology 260	4
History 100	3
	<u>16</u>

<i>Second Semester</i>	Credit
Chemistry 222	3
Chemistry 224	2
Health Education 200	2
Biology 121	4
History 101	3
Education 301	2
	<u>16</u>

Junior Year

<i>First Semester</i>	Credit
Physics 225	3
Physics 235	1
French 100 or	3
German 102	3
Biology 465	4
Biology 561	4
	<u>15</u>

<i>Second Semester</i>	Credit
Biology 466	3
French 101 or	3
German 103	3
Biology 562	4
Physics 226	3
Physics 236	1
Electives	3
	<u>17</u>

Senior Year

<i>First Semester</i>	Credit
Humanities 200	3
Psychology 320	3
Biology 568	1
Biology Elective	3
Electives	3
	<u>13</u>

<i>Second Semester</i>	Credit
Humanities 201	3
Biology 569	1
Biology Elective	6
Electives	3
	<u>13</u>

2. Teacher Education Sequence

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Math 111	4
Physical Education 101	1
Biology 160	4
Chemistry 106	3
Chemistry 116	2
	<u>17</u>

<i>Second Semester</i>	Credit
English 101	3
Math 112	4
History 101	3
Biology 140	4
Chemistry 107	3
Chemistry 117	2
Physical Education 102	1
	<u>16</u>

Sophomore Year

<i>First Semester</i>	Credit
Biology 260	4
Chemistry 221	3
Chemistry 223	2
Education 300	2
Speech 250	2
History 100	3
	<u>16</u>

<i>Second Semester</i>	Credit
Biology 121	4
Psychology 320	3
Health Education 200	2
Education 301	2
Humanities 200	3
History 101	3
	<u>17</u>

Junior Year

<i>First Semester</i>	Credit
Education 400	3
French 100 or	3
German 102	3
Physics 225	3
Physics 235	1
Humanities 201	3
Biology 561	4
	<u>17</u>

<i>Second Semester</i>	Credit
Biology 400	3
Biology 466	3
French 101 or	3
German 103	3
Physics 226	3
Physics 236	1
Biology 562	4
	<u>17</u>

Senior Year

<i>First Semester</i>	Credit
Psychology 436	3
Biology 568	1
Biology Elective	3
Education 637	3
Free Electives	6
	<u>16</u>

<i>Second Semester</i>	Credit
Education 500	3
Education 535	3
Education 560	6
	<u>12</u>

DIRECTORY OF FACULTY AND COURSES

Biology

- David W. Aldridge, B.S., M.S., University of Texas, Arlington; Ph.D., Syracuse University; Postdoc., Woods Hole Marine Biol. Labs.; Assistant Professor
- Jerry Bennett, B.S., Tougaloo College; M.S., Atlanta University; Ph.D., Iowa State University; Associate Professor
- A. James Hicks, B.S., Tougaloo College; Ph.D., University of Illinois, Urbana; Postdoc., Mo. Botanical Gardens, St. Louis; Extramural Assoc., N.I.H., Bethesda; Professor and Chairperson
- Alfred Hill, Jr., B.S., Prairie View College; M.S., Colorado State University; Ph.D., Kansas State University; Professor

Thomas L. Jordan, B.A., Rockhurst College; M.S., Ph.D., University of Wisconsin, Madison; Postdoc., Univ. Wash.-Seattle; Assistant Professor
 Thomas E. McFadden, B.S., M.S., North Carolina Central University; Assistant Professor
 William H. Mitchell, B.S., West Virginia State College; M.A., Purdue University; M.S., University of NC at Greensboro; Assistant Professor
 T.E. Joan Robinson, B.S., Federal City College; M.S., Ph.D., Howard University; Postdoc., Mayo Clinic, Rochester, MN; Postdoc., National Institutes of Health, Bethesda, MD; Assistant Professor
 Joseph J. White, B.S., M.S., North Carolina College, Durham; Ph.D., University of Illinois, Urbana; Professor
 James A. Williams, A.B., Talladega College; M.S., Atlanta University; Ph.D., Brown University; Professor

****Courses**

100 Biological Science
 120 Microbiology
 121 General Microbiology
 140 General Botany
 160 General Zoology
 260 Comparative Evolution of the Vertebrates
 261 Sociobiology
 400 Field Biology
 420 Food Microbiology
 421 Soil Microbiology
 430 Plant Taxonomy
 432 Plant Physiology
 460 Advanced Invertebrate Zoology
 461 Human Anatomy and Physiology
 465 Histology
 466 Principle of Genetics
 467 General Entomology
 468 Economic Entomology
 469 Human Anatomy
 530 Plant Pathology
 560 Human Physiology
 561 Vertebrate Embryology
 562 Introductory Cell Physiology

568 Seminar in Biology
 569 Seminar in Biology
 600 General Science for Elementary Teachers
 640 Plant Biology
 642 Special Problems in Botany
 660 Special Problems in Zoology
 661 Mammalian Biology
 662 Biology of Sex
 663 Cytology
 664 Histo-Chemical Technique
 665 Nature Study
 666 Experimental Embryology
 667 Animal Biology
 668 Animal Behavior
 669 Recent Advances in Cell Biology

Course descriptions are available upon request from the Dean of the School.

Department of Chemistry

Walter Wright, Chairperson

OBJECTIVES

The objectives of the Chemistry Department are:

1. To prepare chemistry majors for graduate study in chemistry or other chemistry-based sciences;
2. To prepare majors for admittance to medical, dental, and other professional schools;
3. To prepare majors for careers as professional chemists;
4. To prepare majors to teach chemistry at the secondary school level;
5. To provide majors in other departments with a functional understanding of chemistry commensurate with the needs of their chosen field;
6. To provide all students served by the department with an insight into the nature of scientific investigations and the scientific enterprise in general;
7. To offer for graduate students learning experiences and research leading to a M.S. in Chemistry;
8. To offer learning experiences and research leading to a M.S. in education with a concentration in Chemistry;

9. To share the resources (human and physical) of the department with the local and academic community through cooperative programs; workshops, seminars, course offerings, etc.;
10. To contribute to the extension of basic knowledge in Chemistry and related sciences through applied and basic research, educational experimentation, publications, etc.

DEGREES OFFERED

Chemistry—B.S., M.S.*
 Chemistry, Secondary Education—B.S., M.S.*
 Chemistry—B.S., M.S.

GENERAL PROGRAM REQUIREMENTS

Chemistry Major—The professional major in chemistry must complete 124 semester hours of University courses. The student may select one of two options in order to complete the professional major. The options are: The American Chemical Society (ACS) Certified Program or the Pre-Health Program. The ACS program requires that the student complete 44 semester hours in basic chemistry courses and six to eight hours in advanced chemistry courses. The Pre-Health Program requires the student to complete 44 semester hours in basic chemistry courses and 16 semester hours of basic biology courses. A minimum grade of "C" must be achieved in all basic chemistry courses.

Teaching Major in Chemistry—The teaching major in chemistry must complete a minimum of 124 semester hours of University courses. Included in these 124 hours are 41 semester hours of basic chemistry courses. A minimum grade of "C" must be achieved in all basic chemistry courses.

Bachelor of Science/Master of Science in Chemistry—This curricula is identical in the first two years to the professional major's program leading to the Bachelor of Science degree. It is designed to enable talented undergraduate students to obtain the B.S. and M.S. degrees, in Chemistry, during a five year period of study and research. Any rising junior in chemistry with a grade-point average of 3.0 in Chemistry and 2.7 overall average is eligible.

* See *Bulletin of the Graduate School*

** Consult the Department for a list of recommended electives, both major and non-major.

ACCREDITATION

The professional curriculum (ACS Certified Program) is accredited by the American Chemical Society. All Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education and approved by the North Carolina State Department of Public Instruction.

CAREER OPPORTUNITIES

B.S. level graduates in chemistry qualify for employment in many fields. There are many career opportunities for chemists in education, government, and industry.

In industry, the chemistry graduate with a B.S. degree may be employed in manufacturing-plant management, research and development, product development, technical sales, marketing, etc. B.S. level chemists work in research at federal, state, municipal, and university laboratories.

The B.S. degree program prepares students to pursue graduate study in chemistry or other chemistry-based sciences (biochemistry, pharmacology, physiology, chemical physics, material science, etc.), medicine, dentistry, and other health professional areas.

Suggested Curriculum Guide for Professional Majors in Chemistry

A. Professional Curriculum (ACS Certified)

Freshman Year

<i>First Semester</i>	Credit
Chemistry 106	3
Chemistry 108	1
Chemistry 116	2
English 100	3
History 100	3
Mathematics 110	4
Physical Education ¹	1
	<hr/> 17

<i>Second Semester</i>	Credit
Chemistry 107	3
Chemistry 117	2
English 101	3
History 101	3
Mathematics 131	4
Physical Education ¹	1
	<hr/> 16

¹ Health Education 200 may be substituted for the two courses in Physical Education.

Sophomore Year

<i>First Semester</i>	Credit
Chemistry 221	3
Chemistry 223	2
Mathematics 132	4
Physics 221	3
Physics 231	2
German 102 or	3
Russian 106	—
	<hr/> 17

<i>Second Semester</i>	Credit
Chemistry 222	3
Chemistry 231	3
Chemistry 232	2
Physics 222	3
Physics 232	2
German 103 or	3
Russian 107	—
	<hr/> 16

Junior Year

<i>First Semester</i>	Credit
Chemistry 441	3
Chemistry 224	2
Mathematics 231	4
Humanities 200	3
Zoology 160	4
	<hr/> 16

<i>Second Semester</i>	Credit
Chemistry 442	3
Chemistry 443	1
Chemistry 511	3
Humanities 201	3
Botany 140 ²	4
Elective	3
	<hr/> 17

² A biology course for which Zoology 160 is a prerequisite may be substituted for Botany 140.

Senior Year

<i>First Semester</i>	Credit
Chemistry 431	3
Chemistry 432	2
Chemistry 444	1
Chemistry 545	3
Adv. Chem. Elective ³	3-4
Elective	3
	<hr/> 15-16

<i>Second Semester</i>	Credit
Adv. Chem Elective ³	3-5
Electives	9
	<hr/> 12-14

³ To be selected from Chemistry 610, 611, 621, 624, 631, 641, 643, 651, and 503 or 504.

B. Professional Curriculum (Pre-Health)

The Program is the same during the first two years as that of the ACS Certified Curriculum.

Junior Year

<i>First Semester</i>	Credit
Chemistry 441	3
Chemistry 224	2
Zoology 160	4
Humanities 200	3
Electives	3
	<hr/> 15

<i>Second Semester</i>	Credit
Chemistry 442	3
Chemistry 443	1
Chemistry 511	3
Zoology 260	4
Humanities 201	3
Electives	3
	<hr/> 17

Senior Year

<i>First Semester</i>	Credit
Chemistry 431	3
Chemistry 432	2
Chemistry 444	1
Chemistry 545	3
Zoology 561	4
Electives	3
	<hr/> 16
<i>Second Semester</i>	Credit
Psychology 562	4
Electives	8
	<hr/> 12

C. Suggested Curriculum Guide for a Teaching Major in Chemistry

The program is the same during the first two years as that of the professional curriculum except Personal Hygiene (P.E. 200) is required.

Junior Year

<i>First Semester</i>	Credit
Chemistry 441	3
Chemistry 224	2
Mathematics 231	4
Zoology 160	4
Education 300	2
Humanities 200	3
	<hr/> 18

<i>Second Semester</i>	Credit
Chemistry 442	3
Chemistry 443	1
Chemistry 511	3
Botany 140 ²	4
Education 301	2
Speech 250	2
Humanities 201	3
	<hr/> 18

² A biology course for which Zoology 160 is a prerequisite may be substituted for Botany 140.

Senior Year

<i>First Semester</i>	Credit
Chemistry 431	3
Chemistry 432	2
Chemistry 444	1
Education 400	3
Education 436	3
Psychology 320	3
Earth Science 309	3
	<hr/> 18

<i>Second Semester</i>	Credit
Education 500	3
Education 535	3
Education 560	6
	<hr/> 12

D. B.S./M.S. Curricula

Additional required Chemistry Courses beyond the B.S.-level are Chemistry 611, 701, 702, 722, 732, 743 or 749, 799, and 5 hours from among 600 and 700 level Chemistry courses.

DIRECTORY OF FACULTY AND COURSES

Chemistry

Richard Bennett Jr., B.S., Morehouse College; Ph.D., The University of California at Santa Barbara; Professor
 Evans Booker, B.S., St. Augustine's College; M.S., Tuskegee Institute; Associate Professor
 Naiter M. Chopra, B.S., M.S., University of Punjab; Ph.D., University of Dublin; Professor
 William B. DeLauder, B.S., Morgan State College; Ph.D., Wayne State University; Professor and Dean of the School of Arts and Sciences
 Etta C. Gravely, B.S., Howard University; M.S., North Carolina A&T State; Ed.D., UNC-Greensboro; Assistant Professor

Vallie Guthrie, B.S., North Carolina A&T State University; M.S., Fisk University; Ed.D., American University; Associate Professor
 Curtis Higginbotham, B.S., North Carolina Central University; M.S., North Carolina A&T State University; Instructor
 Jothi V. Kumar, B.S., Annamala University; Ph.D., Kansas State University; Associate Professor
 Claude N. Lamb, B.S., Mount Union College; M.S., North Carolina Central University; Ph.D., Howard University; Assistant Professor
 Arthur M. Stevens, B.S., Langston University; M.S., Oklahoma University; Associate Professor
 Alex N. Williamson, B.S., Jackson State University; Ph.D., University of Illinois at Urbana; Assistant Professor
 Walter G. Wright, B.S., M.S., North Carolina College; Ph.D., New York University; Professor and Chairperson

Courses

099 Introductory Chemistry
 100 Physical Science
 101 General Chemistry I
 102 General Chemistry II
 104 General Chemistry IV
 105 General Chemistry V
 106 General Chemistry VI
 107 General Chemistry VII
 108 Chemistry Orientation
 110 Physical Science Laboratory
 111 General Chemistry I Laboratory
 112 General Chemistry II Laboratory
 114 General Chemistry IV Laboratory
 115 General Chemistry V Laboratory
 116 General Chemistry VI Laboratory
 117 General Chemistry VII Laboratory
 210 Cooperative Experience I
 221 Organic Chemistry I
 222 Organic Chemistry II
 223 Organic Chemistry I Laboratory
 224 Organic Chemistry II Laboratory
 231 Quantitative Analysis I
 232 Quantitative Analysis I Laboratory
 251 Elementary Biochemistry
 252 Elementary Biochemistry Laboratory
 301 Current Trends in Chemistry
 310 Cooperative Experience II
 410 Cooperative Experience III
 431 Quantitative Analysis II
 432 Quantitative Analysis II Laboratory
 441 Physical Chemistry I
 442 Physical Chemistry II

443 Physical Chemistry II Laboratory
 444 Physical Chemistry II Laboratory
 503 Chemical Research
 504 Independent Study
 511 Inorganic Chemistry
 545 Physical Chemistry III
 610 Inorganic Synthesis
 611 Advanced Inorganic Chemistry
 621 Intermediate Organic Chemistry
 631 Electroanalytical Chemistry
 641 Radiochemistry
 642 Radioisotope Techniques and Applications
 643 Introduction to Quantum Mechanics
 651 General Biochemistry

Course descriptions are available upon request from the Dean of the School.

Department of English

Jimmy L. Williams
 Chairperson

OBJECTIVES

The objectives of the English Department are: to provide instruction in reading and writing skills, the humanities, journalism, linguistics and literature; to prepare English majors and minors to teach, to pursue graduate training in English and other professions; and to prepare students for entry level positions and graduate study in journalism.

DEGREES OFFERED

English, Professional—B.A.
 English, Journalism Concentration—B.A.
 English, Secondary Education—B.S.
 *English, Secondary Education—M.S.
 *English and Afro-American Literature—M.A.

** See the Bulletin of the Graduate School*

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate programs in the Department of English is based upon the general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

Professional English Major and English Major with Journalism Concentration—The professional English major must complete 125 semester hours of University courses. Included in the 125 semester hours are 42 hours of English at the 200 level or above for the professional major. Included in the 124 semester hours for persons concentrating in journalism are 47 semester hours of English at the 200 level or above. A minimum grade of "C" must be achieved in these courses.

Teaching Major in English—The teaching major in English must complete a minimum of 125 semester hours of University courses. Included in these 125 hours are 44 semester hours of English courses at the 200 level or above with grades of "C" or better.

The Minor in English (teaching and non-teaching)—Students desiring a minor in English must complete 24 semester hours in English at the 200 level or above. The courses are English 210, 220, 221, 300, 410, 430, 431, and 450.

CAREER OPPORTUNITIES

A degree in English prepares students to teach, to conduct research, to pursue graduate and professional degrees (such as law and library science), and to work in government, media, business (e.g. service representative, public relations and information directors), editing and numerous other jobs requiring mastery of the language.

Suggested Curriculum Guide For Professional English Majors Bachelor of Arts

Freshman Year

	1st Sem. Cr. Hrs.	2nd Sem. Cr. Hrs.
English 100, 101	3	3
*Math 101, 102	3	3
Soc. Sci. 100, 101	3	3
Bio. Sci. 100	4	—
Phy. Sci. 100, 110	—	4
P.E. 101, 102	1	1
English 102	2	—
English 210	—	3
	16	17

Sophomore Year

**Foreign Language	3	3
Humanities 200, 201	3	3
Speech 250	2	—
English 220, 221	3	3
Psy. 320	3	—
Electives	3	6
	17	15

Junior Year

English 300	3	—
English 500	3	—
English 501	—	3
English 401	—	3
English 430, 431	3	3
Electives	3	6
English Elective	3	—
	15	15

Senior Year

English 450	3	—
English 410	—	3
English 435	3	—
English 436	3	—
Electives	6	12
	15	15

* Students having to take Math. 100 (a remedial course) still must complete Math. 101 & 102 or their equivalent.

** French, Spanish or German through Intermediate level.

Suggested Curriculum Guide For Professional English Majors with a Concentration in Journalism Bachelor of Arts

Freshman Year

	1st Sem. Cr. Hrs.	2nd Sem. Cr. Hrs.
English 100, 101	3	3
*Math 101, 102	3	3
Soc. Sci. 100, 101	3	3
Bio. Sci. 100	4	—
Phy. Sci. 100, 110	—	4
P.E. 101, 102	1	1
English 102	2	—
English 155	—	3
	16	17

Sophomore Year

***Foreign Language	3	3
Humanities 200, 201	3	3
Speech 250	—	2
English 220, 221	3	3
Psy. 320	3	—
English 225	3	—
English 230	—	3
English 210	3	—
Electives	—	3
	18	17

* Students having to take Math. 100 (a remedial course) still must complete Math. 101 & 102 or their equivalent.

** French, Spanish or German through Intermediate level.

Junior Year

English 300	3	—
English 430, 431	3	3
English 330	—	3
English 231	3	—
English 331	—	3
English 332	3	—
Electives	3	6
	15	15

Senior Year

Soc. 100	3	—
Pol. Sci. 230	3	—
English 462	2	—
English 470	—	6
English 464	3	—
Electives	3	6
	14	12

Suggested Curriculum Guide For A Teaching Major in English Bachelor of Science

Freshman Year

	1st Sem. Cr. Hrs.	2nd Sem. Cr. Hrs.
English 100, 101	3	3
*Math 101, 102	3	3
Soc. Sci. 100, 101	3	3
Bio. Sci. 100	4	—
Phy. Sci. 100 & 110	4	4
P.E. 101, 102	1	1
English 102	2	—
English 210	—	3
	16	17

* Students having to take Math. 100 (a remedial course) still must complete Math. 101 & 102 or their equivalent.

Sophomore Year

English 220, 221	3	3
***Foreign Language	3	3
Humanities 200, 201	3	3
Speech 250	—	2
Psychology 320	3	—
Education 300	—	2
English 425	—	3
Electives	3	—
	15	16

***Acceptable courses: French 300, 301, Spanish 320, 321, German 422, 423. Eligibility to enroll in any one of these is established by placement test or by successful completion of elementary level of appropriate language.

Junior Year

English 430, 431	3	3
English 300	3	—
English 501	—	3
English 410	—	3
English 436 or 435	3	—
Education 301	2	—
Education 400	—	3
English 401	—	3
Education 526	3	—
Electives	3	3
	17	18

Senior Year

English 450	3	—
English 500	3	—
English 510	2	—
†English 627	—	3
Education 436	3	—
†Education 500	—	3
†Education 560	—	6
Education 637	3	—
Electives	3	—
	17	12

DIRECTORY OF FACULTY AND COURSES

English

Jimmy L. Williams, B.A., Clark College; M.A., Washington University; Ph.D., Indiana University; Professor and Chairperson

Brian Benson, A.B., Guilford College; M.A., University of North Carolina at Greensboro; Ph.D., University of South Carolina; Professor

John Crawford, B.S., North Carolina A. and T. State University; M.S., University of Iowa; Ph.D., University of Colorado; Professor

Norman Jarrard, A.B., Salem College; M.A., University of North Carolina at Chapel Hill; Ph.D., University of Texas; Professor

Robert Levine, B.A., Queens College of the City University of New York; M.A., Ph.D., Cornell University; Professor

Ethel Taylor, A.B., Spelman College; M.A., Atlanta University; Ph.D., Indiana University; Professor

Sandra Alexander, B.S., North Carolina A. and T. State University; M.A., Harvard University; Ph.D., University of Pittsburgh; Associate Professor

Irma Cunningham, B.A., LeMoyne-Owen College; M.A., Indiana University; Ph.D., The University of Michigan; Associate Professor

Michael Greene, B.A., Duke University; M.A., Ph.D., Indiana University; Associate Professor

Richard Moore, B.S., North Carolina A. & T. State University; M.S., Columbia University; Ed.D., University of North Carolina at Greensboro; Associate Professor

Charles Wyrick, B.S., North Carolina A. & T. State University; M.A., New York University; Associate Professor

Lucy Bolden, B.A., Bennett College; M.S., North Carolina A. and T. State University; Assistant Professor

Catherine Clifton, B.A., University of New Mexico; M.A., Arizona State University; Assistant Professor

Dorothy Eller, B.S., M.A., Boston University; Assistant Professor

Sally Ferguson, B.A., Norfolk State College; M.A., Ph.D., The Ohio State University; Assistant Professor

Samuel Garren, B.A., Davidson College; M.A., Ph.D., Louisiana State University; Assistant Professor

Opal Hawkins, B.S., Hampton Institute; M.S., University of Georgetown; Ph.D., University of North Carolina at Chapel Hill; Assistant Professor

Annie Herbin, B.S., M.S., North Carolina A. and T. State University; Assistant Professor

Pauline Holloway, B.A., Allen University; Litt. M., University of Pittsburgh; Assistant Professor

Elon Kulii, A.B., Winston-Salem State University; M.S., North Carolina A. and T. State University; Ph.D., Indiana University; Assistant Professor

*Kenneth Campbell, B.A., East Carolina University; M.S., Columbia University; Instructor

Hannah Free, B.S., M.S., North Carolina A. & T. State University; Lecturer

Courses

General Education Courses

Basic Reading and Writing Skills
Ideas and Their Expression I & II
Developmental Reading
Topics in Literature

—
* On Leave.

Courses in Humanities

201 Survey of Humanities II
202 The Humanities in America
200 Survey of Humanities I
204 Topics in Humanities: A Multidisciplinary Course
420 Humanities III, Great Ideas of World Civilization

Language, Composition, and Reading

300 Advanced Composition
450 Advanced English Grammar
501 Introduction to the History of the English Language.
510 Reading Skills

Journalism

155 Introduction to Communications Theory
225 Newswriting
230 News Editing and Layout
231 Advanced Newswriting
330 Feature Writing
331 Writing for Science and Technology
332 History and Law of Mass Communications
333 Editorial Writing
334 Print and Radio/TV Advertising
462 Current Issues in Mass Communications
464 Public Information and Public Relations Techniques
470 Media Internship

Literature

210 Introduction to Literary Studies
220 English Literature I
Survey of Dramatic Literature I & II
410 Shakespeare
425 World Literature I
430 American Literature I
431 American Literature
433 Survey of Afro-American Literature
435 The Novel
436 Modern Poetry
475 British and American Literary History
500 Literary Research and Criticism

Advanced Undergraduate and Graduate

603 Introduction to Folklore
620 Elizabethan Drama
621 Grammar and Composition for Teachers
626 Children's Literature
627 Literature and Adolescents
628 The American Novel
650 Afro-American Folklore

- 652 Afro-American Drama
 654 Afro-American Novel I
 656 Afro-American Novel II
 658 Afro-American Poetry I
 History of American Ideas

Course descriptions are available upon request from the Dean of the School.

Department of Foreign Languages

Helen G. LeBlanc Disher,
Chairperson

OBJECTIVES

The objectives of the Foreign Language Department are to (1) develop facility in the listening, speaking, reading and writing of the foreign languages; (2) develop a better knowledge of the foreign cultures and an appreciable awareness of one's own culture; (3) create a spirit of international understanding that will result in respectable attitudes toward individuals and national groups; (4) prepare students as teachers of foreign languages for employment in secondary schools; (5) prepare and encourage students to continue further study and research in the major areas, foreign language literature and education; (6) provide students with experiences to develop communicative skills and competence requisite for personal fulfillment and challenging careers in which the foreign language study will be in full use or an asset.

DEGREES OFFERED

French—B.A.
 French, Education—B.S.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree programs in the Department of Foreign Languages is based upon the general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

French—B.A. (Non-Teaching Major)—The curriculum in this area requires the student to complete a minimum of 124 semester hours of University courses. Included in the 124 hours are 36 semester hours of French in courses beyond the elementary level.

French—B.S. (Teaching Major)—The curriculum for the teaching major in French requires that a student complete the courses and regulations as outlined by the Department of Education for certification at the secondary school level. A student must complete a minimum of 124 semester hours of University courses. Included in the 124 hours are 36 semester hours of French in courses beyond the elementary level.

Students who have completed one unit of language in high school or who have no knowledge of a foreign language are to enroll in an elementary language course. For those students presenting two units or more of high school credits, French 300 and French 301, or Spanish 320 and Spanish 321 are required.

A minor may be achieved in French and Spanish by students who complete a minimum of 21 semester hours in Spanish and 24 hours in French.

ACCREDITATION

All Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education and approved by the North Carolina State Department of Public Instruction.

CAREER OPPORTUNITIES

In this time of growing internationalism, a degree in foreign languages has a high level of importance in many professional careers. For the language major, chances of employment in areas as government service, military service, teaching, international travel, law, business, industry and mass communications, to name but a few, are greatly enhanced by the training in foreign languages.

CURRICULUM GUIDE FOR FRENCH, NON-TEACHING

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 101	3
Social Science 100	3
Biological Science 100	4
French 300	3
	16

<i>Second Semester</i>	Credit
English 101	3
Mathematics 102	3
Social Science 101	3
Physical Science 100	4
French 301	3
	16

Sophomore Year

<i>First Semester</i>	Credit
Speech 250	2
Humanities 200	3
French 410	3
French 415	3
Psychology 320	3
Spanish 104	3
	17

<i>Second Semester</i>	Credit
Humanities 201	3
French 411	3
French 416	3
Spanish 105	3
Physical Education 200	2
Elective or Minor	3
	17

Junior Year

<i>First Semester</i>	Credit
French 400	3
French 505*	3
Spanish 320	3
Geography 210	3
Elective or Minor	3
	15

<i>Second Semester</i>	Credit
French 417	3
French 506*	3
Spanish 321	3
Electives or Minor	6
	15

**Either French 505 or French 506 may be taken; only one course is required.*

Senior Year	
<i>First Semester</i>	Credit
French 508	3
French Elective	3
German 102	3
Electives or Minor	6
	<u>15</u>
<i>Second Semester</i>	Credit
French Electives	6
German 103	3
Electives or Minor	6
	<u>15</u>
Minimum Total Hours Required	124
Minimum Total French Hours Required	36

CURRICULUM GUIDE FOR FRENCH, TEACHING

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 101	3
Social Science 100	3
Biological Science 100	4
French 300	3
	<u>16</u>
<i>Second Semester</i>	Credit
English 101	3
Mathematics 102	3
Social Science 101	3
Physical Science 100	4
French 301	3
	<u>16</u>

Sophomore Year

<i>First Semester</i>	Credit
Speech 250	2
Humanities 200	3
French 410	3
Psychology 320	3
Spanish 104	3
French 415	3
	<u>17</u>
<i>Second Semester</i>	Credit
Humanities 201	3
French 411	3
French 416	3
Physical Education 200	2
Spanish 105	3
Education 300	2
	<u>16</u>

Junior Year	
<i>First Semester</i>	Credit
French 400	3
French 505*	3
Education 301	2
Geography 210	3
Spanish 320	3
Elective	3
	<u>17</u>
<i>Second Semester</i>	Credit
French 417	3
French 506*	3
Education 400	3
Spanish 321	3
Elective	3
	<u>15</u>

Senior Year

<i>First Semester</i>	Credit
French 508	3
Education 436	3
Education 637	3
Structural Linguistics	3
Elective	3
	<u>15</u>
<i>Second Semester</i>	Credit
Education 500	3
Education 527	3
Education 560	6
	<u>12</u>
Minimum Total Hours Required	124
Minimum Total French Hours Required	36

** Either French 505 or French 506 may be taken; only one course is required.*

DIRECTORY OF FACULTY AND COURSES

Foreign Languages

Brigitte E. Archibald, B.A., The King's College; M.A., Middlebury College at Mainz, Germany; Ph.D., University of Tennessee; Associate Professor of German
 Carl E. Henderson, B.A., Morehouse College; M.A., Ph.D., Case Western Reserve University; Assistant Professor of French
 Helen G. LeBlanc Disher, B.A., Talladega College; M.A., University of Illinois; Ph.D., University of Minnesota; Professor and Chairperson, Department of Foreign Languages
 Ellen F. Williams, B.S., M.S., University of Illinois; Instructor of Spanish
 Iris E. Williams, B.A., North Carolina College; M.A., Atlanta University; Instructor of French

COURSES IN FOREIGN LANGUAGES

Courses in French

100 Elementary French I
 101 Elementary French II
 300 Intermediate French I
 301 Intermediate French II
 400 Phonetics
 402 French for Reading Comprehension
 410 Intermediate Oral French
 411 Advanced Oral French
 415 Survey of French Literature I
 416 Survey of French Literature II
 417 Literature of Afro-French Expression
 505 Advanced French Composition
 506 Advanced French Grammar and Composition
 508 French Civilization
 515 Structural Linguistics in the Teaching of French
 602 Problems and Trends in Foreign Languages
 603 Oral Course for Teachers of Foreign Language
 606 Research in the Teaching of Foreign Languages
 607 French Literature of the Seventeenth Century
 608 French Literature in the Eighteenth Century
 609 French Literature of the Nineteenth Century
 610 The French Theatre
 612 The French Novel
 614 French Syntax
 616 Contemporary French Literature
 720 Advanced Reading and Composition
 722 Romantic Movement in France
 724 Seminar in Foreign Languages
 726 Contemporary Literary Criticism
 728 Independent Study in Foreign Languages

Courses in Spanish

104 Elementary Spanish I
 105 Elementary Spanish II
 320 Intermediate Spanish I
 321 Intermediate Spanish II
 401 Spanish for Reading Comprehension
 440 Phonetics
 441 Intermediate Conversation
 422 Introduction to Spanish Literature
 450 La Cultura Hispanica
 451 Survey of Spanish Literature I
 452 Survey of Spanish Literature II
 455 Syntax

Courses in German

- 102 Elementary German I
- 103 Elementary German II
- 202 German Readings in the Natural, Social Science and Technical Fields
- 420 Conversational German
- 422 Intermediate German I
- 423 Intermediate German II
- 427 Survey of German Literature

Courses in Russian

- 106 Elementary Russian I
 - 107 Elementary Russian II
- Course descriptions are available upon request from the Dean of the School.*

Department of History

Bertha H. Miller, Chairperson

OBJECTIVES

The Department is organized to help students develop the abilities for analysis and critical judgment in dealing with matters of an historical nature. It aims further to encourage students to express themselves in constructive and meaningful ways as members of the society in which they live.

The specific objectives of the History Department are as follows: 1) to contribute to the general education of students by providing historical, geographical, and philosophical background for the study of the arts, sciences and technical studies; 2) to provide historical content for students preparing for careers in fields such as education, law, religion, social service, journalism, history, and government service; 3) to provide a course of study leading to the Baccalaureate degree in history and/or social sciences; 4) to provide a course of study leading to the Master of Science degree in education with a concentration in history and/or social sciences, and provide graduate education for career historians for entrance in doctoral programs.

In carrying out its aims and objectives, the History Department offers a broad range of courses in

history as well as courses in geography and philosophy. A system of student advisement is available to all students in the Department. It is imperative that all students make use of the assistance of the faculty advisors, especially in planning their educational program.

DEGREES OFFERED

- History—B.A.
- History, Secondary Education—B.S.
- Social Science, Secondary Education—B.S.
- *History, Secondary Education—M.S.
- *Social Science, Secondary Education—M.S.

** See the Bulletin of the Graduate School*

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree programs in the History Department is based upon the general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

History Major—The major in history must complete 124 semester hours of University courses. Included in the 124 semester hours are 30 hours in history courses at the 200 level or above and 18 hours in the social sciences. A minimum grade of "C" must be achieved in these history and social science courses.

Teaching Major in History—The teaching major in history must complete a minimum of 124 semester hours of University courses. Included in the 124 semester hours are 30 hours in history courses at the 200 level or above and 18 hours in the social sciences. A minimum grade of "C" must be achieved in these history and social science courses.

Teaching Major in Social Sciences—The teaching major in social sciences is an interdisciplinary sequence of study. Students pursuing this program must complete 124 semester hours of University courses. Included in the 124 hours are 45 hours in the

social sciences in which a minimum grade of "C" must be achieved.

These programs are designed to allow students to pursue a minor in other subject areas which best serves their career objectives.

The Minor in History—Students desiring to minor in history must complete 18 semester hours in history at the 200 level or above including History 204, 205, 303 and 304.

ACCREDITATION

All teacher education programs are accredited by the National Council for the Accreditation of Teacher Education and are approved by the State Department of Public Instruction.

CAREER OPPORTUNITIES

The undergraduate educational programs in history and/or social sciences are designed to provide basic educational preparation for students interested in careers in law, religion, journalism, archives and museums, government service, and as historians. These programs also prepare students for graduate and professional school programs.

The programs for teacher preparation are designed for those students who desire teaching careers in history or the social sciences in secondary schools. Business also finds that teacher education majors make good human relations specialists, personnel directors, technical writers, sales managers, and directors of training programs.

SUGGESTED PROGRAM FOR THE HISTORY MAJOR

Freshman Year

<i>First Semester</i>	Credit
Biol. Sci. 100 or Chem. 100	4
English 100	3
Math 101	3
History 100	3
Phy. Ed. or Health Ed.	1-2
English 102	2

16-17

Second Semester

	Credit
Biol. Sci. 100 or Chem. 100	4
English 101	3
Math 102	3
History 101	3
Phy. Ed. or Health Ed.	1-2
Speech 250	2

16-17

Sophomore Year

<i>First Semester</i>	Credit
History 250	3
Foreign Language	3
Humanities 200	3
History 204	3
Phil. 261 or 262	3
Psychology 320	3
	<u>18</u>

<i>Second Semester</i>	Credit
Political Science 200 or 210	3
Foreign Language	3
Humanities 201	3
History 205	3
Social Science elective	3
	<u>15</u>

Junior Year

<i>First Semester</i>	Credit
History 303	3
History elective	3
Foreign Language	3
Economics 300	3
Geography, Sociology or Anthropology	3
	<u>15</u>

<i>Second Semester</i>	Credit
History 304	3
History elective	3
Foreign Language	3
Economics 301	3
History elective	3
	<u>15</u>

Senior Year

<i>First Semester</i>	Credit
History elective	3
History elective	3
Economics 305	3
Elective or Minor	3
Elective or Minor	3
	<u>15</u>

<i>Second Semester</i>	Credit
Electives or Minor	15
	<u>15</u>

**SUGGESTED PROGRAM FOR
THE TEACHING MAJOR
IN SOCIAL SCIENCES**

Freshman Year

<i>First Semester</i>	Credit
Biol. Sci. 100 or Chem. 100	4
English 100	3
Math 101	3
History 100	3
Phy. Ed. or Health Ed.	1-2
English 102	2
	<u>16-17</u>

<i>Second Semester</i>	Credit
Biol. Sci. 100 or Chem. 100	4
English 101	3
Math 102	3
History 101	3
Phy. Ed. or Health Ed.	1-2
Speech 250	2
	<u>16-17</u>

Sophomore Year

<i>First Semester</i>	Credit
Sociology 100 or Anthropology	3
Education 300	2
Foreign Language	3
Humanities 200	3
History 204	3
History 250	3
	<u>17</u>

<i>Second Semester</i>	Credit
Political Science 200 or 210	3
Education 301	2
Foreign Language	3
Humanities 201	3
History 205	3
Social Science elective	3
	<u>17</u>

Junior Year

<i>First Semester</i>	Credit
History 303	3
Psychology 320	3
Education 400	3
Economics 300	3
Social Science elective	3
	<u>15</u>

<i>Second Semester</i>	Credit
History 304	3
History elective	3
Economics 301	3
Education 436	3
Free elective	3
	<u>15</u>

Senior Year

<i>First Semester</i>	Credit
History elective	3
Social Science elective	3
Social Science elective	3
Free elective	4
	<u>13</u>

<i>Second Semester</i>	Credit
Education 500	3
Education 536	3
Education 560	6
Education 637	3
	<u>15</u>

**SUGGESTED PROGRAM FOR
THE TEACHING MAJOR
IN HISTORY**

Freshman Year

<i>First Semester</i>	Credit
Biol. Sci. 100 or Chem. 100	4
English 100	3
Math 101	3
History 100	3
Phy. Ed. or Health Ed.	1-2
English 102	2
	<u>16-17</u>

<i>Second Semester</i>	Credit
Biol. Sci. 100 or Chem. 100	4
English 101	3
Math 102	3
History 101	3
Phy. Ed. or Health Ed.	1-2
Speech 250	2
	<u>16-17</u>

Sophomore Year

<i>First Semester</i>	Credit
Sociology 100 or Anthropology	3
Education 300	2
Foreign Language	3
Humanities 200	3
History 204	3
History 250	3
	<u>17</u>

<i>Second Semester</i>	Credit
Philosophy 261 or 262	3
Education 301	2
Foreign Language	3
Humanities 201	3
History 205	3
Political Science 200 or 210	3
	<u>17</u>

Junior Year

<i>First Semester</i>	Credit
History 303	3
History elective	3
Education 400	3
Economics 300	3
Social Science elective	3
	<u>15</u>

<i>Second Semester</i>	Credit
History 304	3
Psychology 320	3
Education 436	3
Economics 301	3
History elective	3
	<u>15</u>

Senior Year

<i>First Semester</i>	Credit
History elective	3
History elective	3
Social Science elective	3
History elective	3
	<hr/> 12

<i>Second Semester</i>	Credit
Education 500	3
Education 536	3
Education 560	6
Education 637	3
	<hr/> 15

DIRECTORY OF FACULTY AND COURSES

History

Frenise A. Logan, A.B., Fisk University; M.A., Ph.D., Case Western Reserve University; Professor
Dorothy S. Mason, A.B., University of North Carolina at Greensboro; M.A., University of Georgia; Ph.D., University of North Carolina at Chapel Hill; Professor
Wayman B. McLaughlin, A.B., Virginia Union University; B.D., Andover Newton Theological School; Ph.D., Boston University; Professor
James G. Nutsch, B.S., Kansas State University; M.A., Ph.D., University of Kansas; Professor
Theodore H. Partrick, B.A., University of North Carolina at Chapel Hill; M.A., University of Chicago; B.D., Virginia Theological Seminary; S.T.M., Graduate School of Theology, University of the South; Ph.D., University of Chicago; Professor
Peter V. Meyers, B.A., Wesleyan University; M.A., Ph.D., Rutgers, State University; Associate Professor
Bertha H. Miller, B.S., Hampton Institute; M.A., Case Western Reserve University; Ph.D., Duke University; Associate Professor
Donna J. Benson, B.A., The University of North Carolina at Greensboro; M.A., Duke University; Assistant Professor
David F. Porter, B.A., Glassboro State College; M.A., Ph.D., Cornell University, Assistant Professor
Ralph M. Ross, A.B., Knoxville College; B.D., M. Div., Interdenominational Theological Center; Assistant Professor

Olen Cole, B.A., M.A., California State University; Instructor
Sandra T. Williamson, B.A., Johnson C. Smith University; M.A., University of Illinois; Instructor

Courses

100 History of World Civilizations—Part I
101 History of World Civilizations—Part II
204 United States from 1492-1865
205 United States Since 1865
208 History of North Carolina
209 The American Military Experience
215 History of Africa to 1800
216 History of Africa Since 1800
220 History of Science and Technology
250 The Nature, Study, and Writing of History
300 Ancient History
302 The Pre-Modern West
303 Early Modern Europe: Renaissance to 1815
304 Modern Europe Since 1815
305 Socialism Since Karl Marx
306 History of Women Since 1800
307 The Historical Origins of Environmental Crises
310 The Afro-American in the United States to 1865
311 The Afro-American in the United States Since 1865
312 History of Religions
327 History of Latin America
328 Slavery in the United States, 1619-1865
330 History of the Far East to 1800
331 History of the Far East Since 1800
332 The Modern Middle East
334 Honors in History
401 Old Testament, History and Literature
402 The Rise of Christianity
405 History of England
407 American Diplomatic History
410 American Constitutional History
412 Modernization in Africa from 1920 to the Present
416 History of Black Culture in the United States
420 Seminar: Urban America
430 Topics in Twentieth Century American History
442 Russian and Soviet History
450 Modernization in Historical Perspective
600 The British Colonies and the American Revolution
603 The Civil War and Reconstruction
605 Seminar on the Soviet Union

606 United States History, 1900-1932
607 United States History, 1932-Present
615 Seminar in the History of Black America
616 Seminar in African History
617 Readings in African History
625 Seminar in Historiography and Historical Method
626 Revolutions in the Modern World
630 Studies in European History, 1815-1914
631 Studies in Twentieth Century Europe, 1914 to the Present
633 Independent Study in History

Philosophy

260 Introduction to Philosophy
261 History of Philosophy
262 Logic
308 Culture and Value
309 Contemporary Philosophy

Geography

200 Principles of Geography
210 World Regional Geography
322 Economic Geography
640 Topics in Geography of Anglo-America
641 Topics in World Geography

Course descriptions are available upon request from the Dean of the School.

Department of Mathematics and Computer Science

Wendell P. Jones, Chairperson

OBJECTIVES

The objectives of the Department of Mathematics and Computer Science are consistent with the purpose and philosophy of the University. The Department provides training in mathematical and computer sciences that will help students served by it to deal with quantitative matters intelligently and effectively. In addition, the Department offers programs of study from which graduates can emerge with high degrees of mathematical

skill and with sufficient training in related areas that they will be able to cope in diverse mathematical and computer environments.

DEGREES OFFERED

Computer and Information Sciences—B.S.
Engineering Mathematics*—B.S.
Mathematics—B.S.
Mathematics, Secondary Education—B.S.

* Offered in cooperation with the School of Engineering.

GENERAL PROGRAM REQUIREMENTS

Admission, retention and graduation requirements for students enrolled in degree programs in the Department of Mathematics and Computer Science are based upon the general admission, retention and graduation requirements of the University. However, two units of algebra, one unit of plane geometry and one-half unit of trigonometry are required of all students who elect to pursue any curriculum offered in the department.

SPECIFIC PROGRAM REQUIREMENTS

Computer and Information Sciences

The Computer and Information Sciences major must complete a minimum of 124 semester hours of University courses, including 36 hours in computer science courses and 25 hours in mathematics.

Engineering Mathematics

The Engineering Mathematics major must complete a minimum of 139 semester hours of University courses, including 45 hours in mathematics and 40 hours in science and engineering courses.

Mathematics

The Mathematics major must complete a minimum of 124 semester hours of University courses. These include 47 hours in mathematics courses.

Mathematics, Secondary Education

The Mathematics Education major must complete a minimum of 124 semester hours of University courses. These include 38 hours in mathematics, 3 of which must be in a course numbered higher than Mathematics 507, and 29 hours in education and/or psychology. All Teacher Education admission, retention and graduation standards apply.

CAREER OPPORTUNITIES

The Bureau of Labor Statistics of the U. S. Department of Labor in its "Occupational Outlook for College Graduates" continues to report that the employment outlook for computer-oriented graduates is very good. Opportunities in the area are expected to grow faster than the average of all occupations through the 1980's. Also, opportunities in education, cost analysis, government service and public health are expected to be good for graduates in mathematics.

SUGGESTED CURRICULUM GUIDE FOR A MAJOR IN COMPUTER AND INFORMATION SCIENCES

Freshman Year

<i>First Semester</i>	Credit
Math. 110	4
Chem. 101 or Chem. 106	3
Chem. Lab. 111 or Chem. Lab. 116	1
English 100	3
Social Sci. 100	
or	
History 100	3
Education 100	1
	15

<i>Second Semester</i>	Credit
Math. 131	4
Chem. 102 or Chem. 107	3
Chem. Lab. 112 or Chem. Lab. 117	1
English 101	3
Social Sci. 101	
or	
History 101	3
	14

Sophomore Year

<i>First Semester</i>	Credit
Math. 132	4
Humanities 200	3
Speech 250	2
Computer Sci. 160	3
French 100	
or	
German 102	3
Elective	2
	17

<i>Second Semester</i>	Credit
Math. 231	4
Humanities 201	3
Health Ed. 200	2
Computer Sci. 260	3
French 101	
or	
German 103	3
Elective	2
	17

Junior Year

<i>First Semester</i>	Credit
Math. 224	3
Math. 350	3
Economics 300	3
Computer Sci. 270	3
Computer Sci. 360	3
Elective	2
	17

<i>Second Semester</i>	Credit
Math. 240	3
Computer Sci. 250	3
Economics 301	3
Computer Sci. 370	3
Computer Sci. Elective	3
Elective	2
	17

Senior Year

<i>First Semester</i>	Credit
Computer Sci. 365	3
Computer Sci. Elective	6
Electives	6
	15

<i>Second Semester</i>	Credit
Computer Sci. 375	3
Computer Sci. Elective	3
Electives	6
	12

**SUGGESTED CURRICULUM
GUIDE FOR A MAJOR IN
ENGINEERING MATHEMATICS**

Freshman Year

<i>First Semester</i>	Credit
Math. 131	4
Chem. 101	3
Chem. Lab. 111	1
English 100	3
Mechanical Engr. 101	3
Elective or Air or Military Science	1
	<u>15</u>

<i>Second Semester</i>	Credit
Math. 132	4
Chem. 102	3
Chem. Lab. 112	1
English 101	3
Mechanical Engr. 102	3
Elective or Air or Military Science	1
	<u>15</u>

Sophomore Year

<i>First Semester</i>	Credit
Math. 231	4
Math. 240	3
Physics 221	3
Physics Lab. 231	2
Speech 250	2
History 100	2
Electives or Air or Military Science	2
	<u>19</u>

<i>Second Semester</i>	Credit
Math. 331	3
Math. 440	3
Physics 222	3
Physics Lab. 232	2
History 101	3
Health Ed. 200	2
Electives or Air or Military Science	2
	<u>18</u>

Junior Year

<i>First Semester</i>	Credit
Math. 332	3
Math. 224	3
Math. 507	3
Mechanical Engr. 441	3
Humanities 200	3
Electives	3
	<u>18</u>

<i>Second Semester</i>	Credit
Math. 508	3
Mechanical Engr. 442	4
Physics 406	3
Humanities 201	3
Electives	6
	<u>18</u>

Senior Year

<i>First Semester</i>	Credit
Math. 511	3
Math. 350	3
Physics 400	3
Economics 300	3
French 100 or German 102	3
Electives	3
	<u>18</u>

<i>Second Semester</i>	Credit
Math. 512	3
Math. 520	3
Physics 600	3
Economics 301	3
French 101 or German 103	3
Electives	3
	<u>18</u>

** Offered in cooperation with the School of Engineering*

**SUGGESTED CURRICULUM
GUIDE FOR A MAJOR IN
MATHEMATICS**

Freshman Year

<i>First Semester</i>	Credit
Math. 131	4
Chem. 101	3
Chem. Lab. 111	1
English 100	3
Social Sci. 100 or History 100	3
Education 100	1
	<u>15</u>

<i>Second Semester</i>	Credit
Math. 132	4
Chem. 102	3
Chem. Lab. 112	1
English 101	3
Social Sci. 101 or History 101	3
	<u>14</u>

Sophomore Year

<i>First Semester</i>	Credit
Math. 231	4
Math. 240 or Computer Sci. 260	3
Physics 221	3
Physics Lab. 231	2
Humanities 200	3
Speech 250	2
	<u>17</u>

<i>Second Semester</i>	Credit
Math. 350	3
Math. 242	3
Physics 222	3
Physics Lab. 232	2
Humanities 201	3
Health Ed. 200	2
	<u>16</u>

Junior Year

<i>First Semester</i>	Credit
Math. 507	3
*Math Elective (300 level or above)	3
Math. 224	3
French 100, German 102 or Russian 106	3
Electives	3
	<u>15</u>

<i>Second Semester</i>	Credit
*Math Electives (300 level or above)	6
Physics 406	3
French 101, German 103, or Russian 107	3
Electives	4
	<u>16</u>

Senior Year

<i>First Semester</i>	Credit
Math. 505	1
Math. 511	3
*Math Elective (500 level or above)	3
Electives	9
	<u>16</u>

<i>Second Semester</i>	Credit
*Math. Elective (500 level or above)	3
*Math. Elective (400 level or above)	3
Electives	9
	<u>15</u>

** Computer Science 460, 665, and 675 may be taken as mathematics electives.*

SUGGESTED CURRICULUM GUIDE FOR A TEACHING MAJOR IN MATHEMATICS

Freshman Year

<i>First Semester</i>	Credit
Math. 110	4
*Science	4
English 100	3
Physical Ed. 100	1
Education 100	1
Social Sci. 100 or History 100	3
	<u>16</u>

<i>Second Semester</i>	Credit
Math. 131	4
*Science	4
English 101	3
Physical Ed.	1
Social Sci. or History 101	3
	<u>15</u>

Sophomore Year

<i>First Semester</i>	Credit
Math. 132	4
Physics 225	3
Physics lab. 235	1
Education 300	2
Humanities 200	3
Health Ed. 200	2
Math. 350	3
	<u>18</u>

<i>Second Semester</i>	Credit
Math. 231	4
Physics 226	3
Physics Lab. 236	1
Education 301	2
Psychology 320	3
Humanities 201	3
	<u>16</u>

Junior Year

<i>First Semester</i>	Credit
Math. 224	3
French 100 or German 102	3
Education 400	3
Speech 250	2
Math. 507	3
Math. 511	3
	<u>17</u>

* The Science requirement may be any one of the following sequences:

1. Chemistry 101, 111 and 102, 112
2. Botany 140, Zoology 160; or, Zoology 160, Botany 140
3. Biological Science 100, Physical Science 100

<i>Second Semester</i>	Credit
Math. 242	3
French 101 or German 103	3
Psychology 436	3
Math. 240	3
Math. 508 or 512	3
Electives	3
	<u>18</u>

Senior Year

<i>First Semester</i>	Credit
Education 637	3
Electives (Math.)	6
Math. 505	1
Electives	2
	<u>12</u>

<i>Second Semester</i>	Credit
Education 500	3
Education 529	3
Education 560	6
	<u>12</u>

DIRECTORY OF FACULTY AND COURSES

Mathematics and Computer Science

Bolindra N. Borah, B.S., Gauhat University, India; M.S., Ph.D., Oregon State University; Professor

Wendell P. Jones, B.S., North Carolina A&T State University; M.S., Ph.D., University of Iowa; Professor and Chairperson

Wilbur L. Smith, B.S., North Carolina A&T State University; M.S., Ph.D., The Pennsylvania State University; Professor

Richard R. Tucker, B.S., University of Washington; M.S., Ph.D., Oregon State University; Professor

Nathan F. Simms, Jr., B.S., M.S., North Carolina Central University; Ph.D., Lehigh University; Professor

James F. Chew, B.S., M.S., Ph.D., Virginia Polytechnic Institute; Associate Professor

J. Octavio Diaz, B.S., Ph.D., University of Havana; Associate Professor

Joseph R. Gruendler, B.S., M.S., Ph.D., University of Wisconsin; Ph.D., University of North Carolina at Chapel Hill; Associate Professor

Nan P. Manuel, B.S., Morgan State University; M.S., Howard University; Ph.D., The Union for Experimenting Colleges and Universities; Associate Professor

Thelma E. Bradford, A.B., Tougaloo College; M.A., Atlanta University; Assistant Professor

Gilbert Casterlow, Jr., B.S., M.S., North Carolina A&T State University; Ph.D., The Pennsylvania State University; Assistant Professor

Gwendolyn H. Cherry, B.S., M.S., North Carolina A&T State University; Assistant Professor

Thomas G. Clarke, B.A., Hiram College; M.S., Purdue University; Ph.D., Kent State University; Assistant Professor

Willie C. High, B.S., North Carolina Central University; M.S., North Carolina A&T State University; M.A., University of North Carolina at Greensboro; Assistant Professor

David M. Hinton, B.S., Winston-Salem State University; M.S., DePaul University; Assistant Professor

*Vappala J. Joseph, B.S., M.S., Kerala University, India; M.Phil., Madurai University, India; Ph.D., Purdue University; Assistant Professor

Cardoza McCollum, B.S., M.S., North Carolina A&T State University; Assistant Professor

Robert C. Mers, A.B., University of Texas; M.S., University of Illinois; Ph.D., University of Colorado; Assistant Professor

Margaret W. Artis, B.S., North Carolina Central University; M.E., The Pennsylvania State University; Instructor

*Shearon A. Brown, B.S., M.S., North Carolina A&T State University; Instructor

Amos O. Olagunju, B.Sc., Ahmadu Bello University; M.Sc., Queen's University (Kingston, Canada); Instructor

Anthony E. Grice, B.S., North Carolina A&T State University; Adjunct Instructor

Rodney E. Harrigan, B.S., Paine College; M.S., Howard University; IBM Faculty Loan Professor

Courses—Computer Science

160 Introduction to Computer Science

250 COBOL and Business Data Processing

260 Computer Language: PASCAL

265 Algorithmic Analysis and Advanced PASCAL

270 Data Structures

280 Conversational PL/1 Programming

* On leave of absence for academic year 1983-84.

290 APL Programming
 360 Information Structures
 365 Programming Principles
 370 Assembly Language Programming
 375 Computer Organization and Logic
 460 Numerical Analysis
 560 Systems Programming
 570 Data Base Design
 660 Computer Science for Secondary School Teachers
 665 Principles of Optimization
 670 Simulation Concepts and Languages
 675 Graph Theory
 680 Systems Analysis Techniques
 690 Advanced Topics in Computer Science

Courses—Mathematics

100 Intermediate Mathematics
 101 Fundamentals of Algebra and Trigonometry—Part I
 102 Fundamentals of Algebra and Trigonometry—Part II
 110 Pre-Calculus for Engineers and Scientists
 111 College Algebra and Trigonometry
 112 Calculus for Non-Mathematics Majors
 131 Calculus—Part I
 132 Calculus II
 231 Calculus III
 240 Computer Language: FORTRAN
 242 College Geometry
 331 Introduction to Applied Mathematics—Part I
 332 Introduction to Applied Mathematics—Part II
 115 Mathematics of Business and Finance
 224 Introduction to Probability and Statistics
 350 Linear Algebra and Matrix Theory—Part I
 420 History of Mathematics
 423 Theory of Equations
 440 Numerical Methods
 505 Seminar in Mathematics
 507 Intermediate Analysis—Part I
 508 Intermediate Analysis—Part II
 511 Abstract Algebra—Part I
 512 Abstract Algebra—Part II
 520 Linear Algebra and Matrix Theory—Part II
 550 Vector Analysis
 600 Introduction to Modern Mathematics for Secondary School Teachers
 601 Algebraic Equations for Secondary School Teachers
 602 Modern Algebra for Secondary School Teachers

603 Modern Analysis for Secondary School Teachers
 604 Modern Geometry for Secondary School Teachers
 606 Mathematics for Chemists
 607 Theory of Numbers
 608 Mathematics of Life Insurance
 620 Elements of Set Theory and Topology
 623 Advanced Probability and Statistics
 624 Methods of Applied Statistics
 625 Mathematics for Elementary Teachers, K-8—Part I
 626 Mathematics for Elementary Teachers, K-8—Part II
 631 Linear and Non-Linear Programming
 632 Games and Queue Theory
 651 Methods in Applied Mathematics—Part I
 652 Methods in Applied Mathematics—Part II

Course descriptions are available upon request from the Dean of the School.

Department of Music

Clifford E. Watkins
 Chairperson

OBJECTIVES

The general objectives of the department of music are: (1) to enhance the cultural and aesthetic life of the university student through personal experiences in a well directed program of education in music; (2) to provide the student with basic skills, techniques, pedagogical concepts, and perspective for a career as an artist and as a teacher of music on the elementary and secondary school levels; and (3) to interpret, create, and maintain the highest level in individual and group performance in music.

DEGREES OFFERED

B.S.—Music Education (Instrumental Concentration)
 B.S.—Music Education (Choral Concentration)

B.A.—Music (Applied Music Concentration)
 B.A.—Music (Music History and Literature Concentration)

The Department of Music offers two degree programs. One of these is a liberal arts curriculum leading to the Bachelor of Arts in Music degree with concentrations in Applied Music and Music History and Literature. This degree program is designed to accommodate students who wish to enter some area of music other than teaching. The other degree program is a teacher-education based curriculum leading to the Bachelor of Science in Music Education degree with either a choral or instrumental concentration. Students intending to teach in the public schools are strongly urged to follow this curriculum in order that they may meet certification requirements.

CAREER OPPORTUNITIES

Successful completion of the requirements of the B.A. degree in Music or the B.S. degree in Music Education provides the students with possible career opportunities for public school music teaching, as well as for a career in the performing arts.

ACADEMIC COUNSELING

Each student is assigned to a music faculty member for counseling in matters of curriculum and related or personal problems as are appropriate. Students should consult regularly with the advisors to gain the benefits from their experience and expertise.

ADMISSION—RETENTION—EVALUATION

The admission of students to the undergraduate degree programs in the Department of Music is based upon the general admission requirements of the University.

For certified admission to the study of music as a major, the prospective music student must stand in a satisfactory manner:

1. Auditions set by the faculty panel in his/her principal applied music area.
2. Standardized tests consisting of the *Watkins-Farnum Performance Scale*, the *Seashore Tests of*

Musicality, and the entrance level *Aliferis Test of Musical Achievement*.

To continue in the department of music, students must maintain a "C" average in all music courses. At the end of the sophomore year, the mid-point level *Aliferis Test of Musical Achievement* is administered and must be stood satisfactorily.

Seniors are encouraged to take the *Undergraduate Record*, the *Graduate Record*, and the *National Teacher Examinations* to build a data base for evaluation of the music program.

Upon entrance into the music education program, each student must choose either an instrumental or a choral concentration. Those whose principal applied music subject is either voice or piano should select the choral concentration; and those whose principal applied subject is an orchestral instrument should select the instrumental concentration. A student is not fully admitted to the teacher-education program however, until the end of the sophomore year. At this time his/her academic work and general prospects as a teacher are examined by his/her department and the Teacher-Education Council. This is accomplished in part through special inventories and tests of achievement. Upon acceptance, the student is permitted to enroll in upper level professional education courses.

At the end of the four years, the student is again evaluated by his/her department and the Teacher Education Council to determine whether he/she has developed the competencies required of a teacher in his/her discipline. If the student is able to satisfy all exit criteria, he is then recommended for a teaching certificate. More detailed information concerning entrance and exit requirements and procedures for the teacher-education program is available from the academic advisor.

PERFORMANCE ENSEMBLES

Each student with a major in music is required to maintain continuous membership in an ensemble related to his/her principal performing medium. Participation in more than a single ensemble is possible and encouraged so long as there are no schedule conflicts or violations of University policy concerning student course load.

Attendance is required for all music majors and minors at student or faculty recitals, band, choir, and chamber ensemble concerts, and lyceum programs that involve musical performance. A systematic method of checking and recording attendance will be used.

INSTRUMENTS AND PRACTICE FACILITIES

Several studios are provided as practice facilities for students. Each contains a piano which is tuned regularly and kept in good repair.

With the exception of piano students, each music major/minor is required to furnish an instrument for his personal use. University-owned instruments are primarily for the use of non-major students who serve in the instrumental ensembles to complete the necessary instrumentation as need dictates. In as great a quantity as is possible, University-owned instruments will be provided for the instruction of music majors and minors in music education classes.

DEPARTMENTAL REQUIREMENTS FOR THE MAJOR

Bachelor of Science in Music Education

Instrumental Concentration

- I. Applied Music—21 Semester Hours
113, 213, 413, 114, 214, 503, 513, 550
- II. Music Theory—21 Semester Hours
101, 102, 200, 201, 400, 401, 501
- III. Music History and Literature—6 Semester Hours
403, 404
- IV. Music Education—7 Semester Hours
424, 425, 426, 427
- V. Music Performance—8 to 16 Semester Hours
One ensemble required each semester, elect from 300 to 309, and add 307 each semester.
- VI. Professional Education—27 Semester Hours
Education 300, 301, 400, 436, 500, 532, 560, 637

TOTAL HOURS REQUIRED: 90 to 98 Semester Hours

Choral Concentration

- I. Applied Music—22 Semester Hours
100 or 560, 113, 213, 413, 503, 513, 550, 114, 214
- II. Music Theory—21 Semester Hours
101, 102, 200, 201, 400, 402, 501
- III. Music History and Literature—6 Semester Hours
403, 404
- IV. Music Education—6 Semester Hours
424, 425, 426
- V. Music Performance—8 to 16 Semester Hours
One ensemble required each semester, elect from 300 to 309, and add 307 each semester.
- VI. Professional Education—27 Semester Hours
Education 300, 301, 400, 436, 500, 530, 531, 560, 637

TOTAL HOURS REQUIRED: 90 to 98 Semester Hours

BACHELOR OF ARTS IN MUSIC

Applied Music Concentration

- I. Applied Music—24 Semester Hours
113, 213, 413, 513, 114, 214, 503, 550. Voice students add 100. Piano students add 560.
- II. Music Theory—22 Semester Hours
101, 102, 119, 200, 201, 400, 402, 501
- III. Music History and Literature—10 Semester Hours
403, 404, Wind and Percussion students add 408 and 412. Piano students add 409 and 411.
- IV. Music Performance—18 Semester Hours
307 and either 300 or 301 or 309 (eight semesters); and either 302, 303, 304, 305, 306, or 308 (two semesters) in senior year.
- V. Other Music Courses—3 Semester Hours
618
- VI. Related Courses—3 Semester Hours
Philosophy 260

TOTAL HOURS REQUIRED: 80

HISTORY AND LITERATURE CONCENTRATION	
I. Applied Music—24 Semester Hours	
113, 213, 413, 513, 114, 214, 503, 550. Voice students add 100. Piano students add 560.	
II. Music Theory—22 Semester Hours	
101, 102, 119, 200, 201, 400, 402, 501	
III. Music History and Literature— 18 Semester Hours	
403, 404, 405, 406, 407, 408, 410, and either 409, 411, 412	
IV. Music Performance—8 to 16 Semester Hours	
One ensemble required each semester, elect from 300 to 309 and add 307 each semester.	
V. Other Music Courses—3 Semester Hours	
618	
VI. Related Courses—6 Semester Hours	
English 210, 500	
TOTAL HOURS REQUIRED: 81 to 89 Semester Hours	
GENERAL EDUCATION REQUIREMENTS FOR B.S. IN MUSIC EDUCATION	
English Composition (2 courses required)	
Eng 100	3(3-0)
Eng 101	3(3-0)
Natural and Physical Science (4 courses required)	
Biol 100	4(3-2)
Phys 200	2(2-0)
Math 101	3(3-0)
Math 102	3(3-0)
Foreign Language (2 courses required)	
French, German, or Spanish I	3(3-0)
French, German, or Spanish II	3(3-0)
Social and Behavioral Sciences (3 courses required)	
Hist 100	3(3-0)
Hist 101	3(3-0)
Psy 320	3(3-0)
Humanities (4 courses required*)	
Eng 200	3(3-0)
Eng 201	3(3-0)
Speech 250	2(2-0)
*Mus 403 and 404 complete the Humanities requirement	

Health or Physical Education	
Phy Ed 200	2(2-0)
Phy Ed 101	1(0-2)
Phy Ed 102	1(0-2)

GENERAL EDUCATION REQUIREMENTS FOR B.A. IN MUSIC

Applied Music Concentration

NOTE: The general education re-
quirements are the same as
for the B.S. in Music Educa-
tion requirements with the
following exceptions:

1) Add: Phil 260	3(3-0)
2) Delete: Phy Ed 101	1(0-2)
Phy Ed 102	1(0-2)
Speech 250	2(2-0)

MUSIC HISTORY AND LITERATURE CONCENTRATE

NOTE: The general educa-
tion requirements are the
same as for the B.S. in Music
Education requirements with
the following exceptions:

1) Add: Phil 260	3(3-0)
Eng 210	3(3-0)
Eng 500	3(3-0)
2) Delete: Phy Ed 101	1(0-2)
Phy Ed 102	1(0-2)
Speech 250	2(2-0)

BACHELOR OF SCIENCE DEGREE IN MUSIC EDUCATION

Instrumental Concentration

Freshman Year

<i>First Semester</i>	Credit
Music 101	3
Music 113	2
Music 114	1
Music 300-309	1 or 2
Music 307	0
English 100	3
History 100	3
Physics 200	2
	15 or 16

Second Semester

	Credit
Music 102	3
Music 113	2
Music 114	1
Music 300-309	1 or 2
Music 307	0
English 101	3
History 101	3
Biology 100	4
	17 or 18

Sophomore Year

<i>First Semester</i>	Credit
Music 200	3
Music 213	2
Music 214	1
Music 300-309	1 or 2
Music 307	0
Foreign Language I—French, German, or Spanish	3
Math 101	3
Psychology 320	3
Physical Ed 101	1
	17 or 18

Second Semester

	Credit
Music 201	3
Music 213	2
Music 214	1
Music 300-309	1 or 2
Music 307	0
Foreign Language II—French, German, or Spanish	3
Math 102	3
Education 300	2
Physical Ed 102	1
Speech 250	2
	18 or 19

Junior Year

<i>First Semester</i>	Credit
Music 400	3
Music 403	3
Music 413	2
Music 300-309	1 or 2
Music 307	0
Music 424	2
Music 425	2
English 200	3
Education 301	2
	18 or 19

Second Semester

	Credit
Music 402	3
Music 404	3
Music 413	2
Music 300-309	1 or 2
Music 426	2
Music 427	1
Music 307	0
English 201	3
Physical Ed 200	2
	17 or 18

Senior Year

<i>First Semester</i>	Credit
Music 300-309	1 or 2
Music 307	0
Music 501	3
Music 503	2
Music 550	1
Education 436	3
Education 530	2
Education 400	3
Music 513	2
	17 or 18

<i>Second Semester</i>	Credit
Music 300-309	1 or 2
Education 500	3
Education 532	3
Education 560	6
Education 637	3
	<hr/> 16 or 17

Total Hours: 133-141 hrs.

General Education: 45 hrs.

Music Hours: 61-69 hrs.

Professional Education: 27 hrs.

NOTE: The particular requirements for the B.S. degree in Music Education with a Choral Concentration are the same as the instrumental concentration with the following exceptions:

Freshman Year; First Semester:
Add Mus 100 *Diction for Singers* (1 Hr.); Piano students take Mus 560 *Accompanying* (2 Hr.) instead of Mus 100.

Junior Year, Second Semester:
Delete Mus 427 *Voice Ce Class* (1 Hr.)

Senior Year, Second Semester:
Substitute Ed 531 *Vocal Methods and Materials* (3 Hrs.) instead of Ed 532

Total Hours: 133-142 hrs.

General Education: 45 hrs.

Music Hours: 61-70 hrs.

Professional Education: 27 hrs.

BACHELOR OF ARTS DEGREE IN MUSIC

Freshman Year

<i>First Semester</i>	Credit
Music 101	3
Music 113	2
Music 114	1
*Music 300-309	2
Music 307	0
English 100	3
History 100	3
*Music 100	1
Music 119	1
	<hr/> 16

<i>Second Semester</i>	Credit
Music 102	3
Music 113	2
Music 114	1
*Music 300-309	2
Music 307	0
English 101	3
History 101	3
	<hr/> 14

Sophomore Year

<i>First Semester</i>	Credit
Music 200	3
Music 213	2
Music 214	1
*Music 300-309	2
Music 307	0
Foreign Language I—French, German, or Spanish	3
Math 101	3
Physical Ed 200	2
	<hr/> 16

<i>Second Semester</i>	Credit
Music 201	3
Music 213	2
Music 214	1
*Music 300-309	2
Music 307	0
Foreign Language II—French, German, or Spanish	3
Math 102	3
Physics 200	2
	<hr/> 16

Junior Year

<i>First Semester</i>	Credit
Music 400	3
Music 413	2
*Music 300-309	2
Music 307	0
Music 403	3
English 200	3
Philosophy 260	3
	<hr/> 16

<i>Second Semester</i>	Credit
Music 402	3
Music 413	2
*Music 300-309	2
Music 404	3
Music 307	0
English 201	3
Biology 100	4
	<hr/> 17

Senior Year

<i>First Semester</i>	Credit
*Music 300-309	2
Music 300-309	1
Music 307	0
Music 408 Symphony or	
Music 410 Opera	2
Music 501	3
Music 513	2
Psychology 320	3
Music 560	2
	<hr/> 15

<i>Second Semester</i>	Credit
*Music 300-309	2
Music 300-309	1
Music 307	0
Music 411 or	
Music 412 or	
Music 409	2
Music 503	2
Music 550	1
Music 618	3
	<hr/> 11

*NOTE: Only Voice Majors take Mus 100 *Diction for Singers*. The B.A. Applied Music Curriculum requires 8 semesters of a 2-hour ensemble, either Music 300, 301, or 309; in addition, the Applied Concentration requires two 1-hr. ensembles.

Total Hours: 118-120 hrs.

General Education: 44 hrs.

Music Hours: 74-76 hrs.

BACHELOR OF ARTS DEGREE IN MUSIC

Music History and Literature Concentration

Freshman Year

<i>First Semester</i>	Credit
Music 101	3
Music 113	2
Music 114	1
Music 119	1
Music 307	0
Music 300-309	1 or 2
Music 100	1
English 100	3
History 100	3
	<hr/> 15 or 16

<i>Second Semester</i>	Credit
Music 102	3
Music 113	2
Music 114	1
Music 307	0
Music 300-309	1 or 2
English 101	3
History 101	3
Biology 100	4
	<hr/> 17 or 18

Sophomore Year

<i>First Semester</i>	Credit
Music 200	3
Music 213	2
Music 214	1
Music 300-309	1 or 2
Music 307	0
Music 403	3
Math 101	3
Music 560	2

15 or 16

Second Semester

	Credit
Music 201	3
Music 213	2
Music 214	1
Music 300-309	1 or 2
Music 307	0
Music 404	3
Math 102	3
Physical Ed 200	2

15 or 16

Junior Year

<i>First Semester</i>	Credit
Music 400	3
Music 405	2
Music 413	2
Music 300-309	1 or 2
Music 307	0
Foreign Language I—French, German, or Spanish	3
English 200	3
Psychology 320	3

17 or 18

Second Semester

	Credit
Music 402	3
Music 406	2
Music 413	2
Music 300-309	1 or 2
Music 307	0
Foreign Language II—French, German, or Spanish	3
English 201	3
Philosophy 260	3

17 or 18

Senior Year

<i>First Semester</i>	Credit
Music 300-309	1 or 2
Music 407	2
Music 408	2
Music 501	3
Music 513	2
Music 618	3
English 210	3

16 or 17

Second Semester

	Credit
Music 300-309	1 or 2
Music 410	2
Music 409 or	
Music 411 or	
Music 412	2
Music 503	2
Music 550	1
English 500	3

11 or 12

Total Hours: 122-132 hrs.

Music Hours: 72-82 hrs.

General Education: 50 hrs.

**DIRECTORY OF FACULTY
AND COURSES**

Music

Clifford E. Watkins, B.A., Clark

College; M.Mus.Ed., Ph.D.,

Southern Illinois University;

Professor and Chairperson

Samuel Barber, B.M., Howard Uni-

versity; M.M. Ed., Roosevelt Uni-

versity; D.M.A., College Conser-

vatory of Music, University of Cin-

cinnati; Associate Professor

Walter F. Walter F. Carlson, Jr., B.S.,

A&T College; M. Mus., University of

Michigan; Associate Professor

Seth Dworkin, B.M.E., B.M.,

American University; M.M., Uni-

versity of Illinois; Ph.D., State Uni-

versity of N.Y. at Buffalo; Assistant

Professor

Paula D. Harrell, B.A., North

Carolina Central University; M.M.,

The Ohio State University;

Instructor

Johnny B. Hodge, B.A., North

Carolina Central University; M.M.,

University of North Carolina at

Greensboro; Ph.D., American Uni-

versity; Associate Professor

Judith W. Howle, B.M., Eastmon

School of Music of the University of

Rochester; Assistant Professor

William C. Smiley; B.M.E., Jackson

State College; M.S., University of Il-

linois; Assistant Professor

Jimmie J. Williams, B.S., Florida A. &

M. University; M.S., University of

Illinois; Associate Professor

Courses in Music Theory

301, 302 Theory I, II

119 Sight Singing and Ear Training

200, 201 Theory III, IV

400 Counterpoint

402 Form and Analysis

414 Composition

501 Arranging

Courses in Music History and Literature

216 Music Appreciation I

218 Introduction to Music Literature

220 History of Black Music in
America

221 History of Jazz

403 History and Literature of Music I

404 History and Literature of Music
II

406 Music of the Romantic Period

407 Modern Music from 1890 to the
Present

408 The Symphony

409 Keyboard Music

410 Opera

411 The Art Song

412 Chamber Music

Courses in Music Education

424 Percussion Instruments

425 Woodwind Instruments

426 Brasswind Instruments

427 Voice Class

428 Stringed Instruments

Performance Organizations

300 University Band

301 University Choir

302 Brass Ensemble

303 Woodwind Ensemble

304 Percussion Ensemble

305 Opera Workshop

307 Recital Seminar

308 University Jazz Ensemble

309 University Orchestra

Courses in Applied Music

503 Score Reading and Conducting

550 Senior Recital

114 Applied Music Secondary I

214 Applied Music Secondary II

113, 213, 413, 513 Applied Music
Principal I, II, III, IV**Courses for Advanced Undergraduates and Graduates**

609 Music in Early Childhood

610 Music in Elementary School
Today611 Music in The Secondary School
Today614 Choral Conducting of School
Music Groups616 Instrumental Conducting of
School Music Groups

618 Psychology of Music

620 Advanced Music Appreciation

*Course descriptions are available upon
request from the Dean of the School.*

Department of Physics

Jason Gilchrist, Chairperson

OBJECTIVES

The specific objectives of the Department are:

1. To prepare majors for graduate study and careers in physics, medicine and other professional fields.
2. To prepare majors for work in research and development laboratories.
3. To prepare majors to teach physics and mathematics in high school.
4. To provide majors in other departments with a clear understanding of the laws of physics and their applications.
5. To provide all students with the ability to make meaningful observations, to convert these observations into mathematical language, and to reach logical conclusions.

DEGREES OFFERED

Physics, Professional—B.S.
Physics, Secondary Education—B.S.
Engineering Physics—B.S.

GENERAL PROGRAM REQUIREMENTS

In addition to the general admission requirements of the University, a student must have one and one-half units of algebra, one unit of plane geometry, and one-half unit of solid geometry.

DEPARTMENTAL REQUIREMENTS

Professional Physics Major—The major in professional physics must complete 124 semester hours of University courses. Included in the 124 semester hours are 47 semester hours of physics courses at the 200 level or above.

A student may complete requirements for a professional physics

degree and also satisfy admission requirements for some medical schools by taking the following courses as electives: Biology 160, 140, 260 and Chemistry 221 & 222. Many medical schools may admit students after the completion of the third year of study.

Teaching Major in Physics—The teaching major must complete 125 semester hours of University courses. Included in these 125 hours are 24 semester hours of physics courses at the 200 level or above.

Engineering Physics Major—The major in engineering physics must complete 127 semester hours of University courses. Included in the 124 semester hours are 36 semester hours of physics and 36 semester hours in engineering.

ACCREDITATION

All Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education and approved by the North Carolina State Department of Public Instruction.

CAREER OPPORTUNITIES

A degree in physics will allow the student to go directly into research activity, study for an advanced degree, or teach in junior or senior high school. A study of physics may give the technical background usefulness in such fields as: Medicine, Law, Computer Science, Astronomy, or Business.

SUGGESTED CURRICULUM FOR MAJOR IN ENGINEERING PHYSICS

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Calculus I 131	4
History 100	3
Intro. to Graphics Sci. 103	2
Computer Programming 240	3
	15

Second Semester

	Credit
English 101	3
Calculus 132	4
History 101	3
Gen. Physics I 221	3
Gen. Physics Lab I 231	2
	15

Sophomore Year

<i>First Semester</i>	Credit
Gen. Physics II 222	3
Gen. Physics II Lab 232	2
Calculus III 231	4
Gen. Chemistry I 101	3
Gen. Chemistry I Lab 111	1
Elective: Humanities— Social Science*	3
	16

Second Semester

	Credit
Modern Physics 406	3
Electromagnetism 403	3
Applied Math I 331	3
Fluid Mechanics 416	3
Electives	3
	15

Junior Year

<i>First Semester</i>	Credit
Physical Mechanics I 400	3
Solid State Physics 408	3
Applied Math II 332	3
Basic EE I 441	3
Basic EE Lab I 447	1
Elective	3
	16

Second Semester

	Credit
Physical Mechanics II 600	3
Nuclear Physics 606	3
Basic EE II 442	3
Basic EE Lab II 448	1
Eng. Economics Analysis	2
Elective	3
	15

Senior Year

<i>First Semester</i>	Credit
Advanced Lab I 555	3
Electronics I 320	3
Electronics Lab I 326	1
Thermodynamics I 441	3
Physics Seminar 423	2
Elective	4
	16

Second Semester

	Credit
Advanced Lab II 556	3
Thermodynamics 442	4
Electives: Humanities, Social Science*	6
Elective	3
	16

* General education requirements.

**SUGGESTED CURRICULUM
GUIDE FOR A MAJOR IN
PROFESSIONAL PHYSICS**

Freshman Year

<i>First Semester</i>	Credit
Math 131	4
Physics 102	1
English 102	1
English 100	3
Physics 221	3
Physics 231	2
	<hr/> 14

<i>Second Semester</i>	Credit
English 101	3
Physics 222	3
Physics 232	2
Mathematics 132	4
History 100	3
	<hr/> 15

Sophomore Year

<i>First Semester</i>	Credit
History 101	3
Mathematics 231	4
Mathematics 240	3
Chemistry 101	3
Chemistry 111	1
Physics 400	3
	<hr/> 17

<i>Second Semester</i>	Credit
Humanities 200	3
Mathematics 331	3
Physics 406	3
Chemistry 102	3
Chemistry 112	1
Physics 600	3
	<hr/> 16

Junior Year

<i>First Semester</i>	Credit
Humanities 201	3
Physics 555	3
Physics 403	3
Physics 401	3
Mathematics 332	3
	<hr/> 15

<i>Second Semester</i>	Credit
Physics 556	3
Physics 603	3
Physics 423	2
Social or Behavioral Science, electives*	6
Electives, free	3
	<hr/> 17

Senior Year

<i>First Semester</i>	Credit
Physics 605	3
French, German or Russian	3
Physics 402	3
Humanities, electives*	6
	<hr/> 15

<i>Second Semester</i>	Credit
Physics 606	3
French, German or Russian	3
Electives, free	9
	<hr/> 15

* General education requirements.

**SUGGESTED CURRICULUM
GUIDE FOR A TEACHING
MAJOR IN PHYSICS**

Freshman Year

<i>First Quarter</i>	Credit
English 100	3
History 100	3
Chemistry 101	3
Chemistry 111	1
Mathematics 111	4
Physical Education	1
Physics 102	1
	<hr/> 16

<i>Second Semester</i>	Credit
English 101	3
History 101	3
Chemistry 102	3
Chemistry 112	1
Mathematics 131	4
Physical Education	1
	<hr/> 15

Sophomore Year

<i>First Semester</i>	Credit
Psychology 320	3
Humanities 200	3
Mathematics 132	4
Physics 221	3
Physics 231	2
Speech 250	2
	<hr/> 17

<i>Second Semester</i>	Credit
Education 300	2
Humanities 201	3
Mathematics 231	4
Physics 222	3
Physics 232	2
Health Education 200	2
	<hr/> 16

Junior Year

<i>First Semester</i>	Credit
Physics 406	3
Physics 400	3
Education 301	2
Biology 160	4
Elective	3
	<hr/> 15

<i>Second Semester</i>	Credit
Physics 403	3
Education 400	3
Biology 140	4
Electives	6
	<hr/> 16

Senior Year

<i>First Semester</i>	Credit
Physics 557	3
Education 436	3
Physics electives	6
Mathematics 240	3
Physics 423	2
	<hr/> 17

<i>Second Semester</i>	Credit
Education 560	6
Education 500	3
Education 535	3
	<hr/> 12

**DIRECTORY OF FACULTY
AND COURSES**

Physics

Stuart T. Ahrens, B.S., Beloit College; M.S., Ph.D., University of Wyoming; Associate Professor
 Maria R. Diaz, B.S., Instituto De La Vibora; M.S., Ph.D., University of Havana; Associate Professor
 Jason Gilchrist, B.S., Norfolk State College; M.S., Ph.D., Howard University; Professor and Chairperson
 Thomas R. Sandin, B.S., Santa Clara University; M.S., Ph.D., Purdue University; Professor
 Elvira S. Williams, B.S., North Carolina Central University; M.S., Ph.D., Howard University; Associate Professor

Courses

101 Introduction To Astronomy
 102 Physics Orientation
 200 Introductory Physics
 201 Survey of Physics
 211 Technical Physics I
 212 Technical Physics II
 216 Technical Physics I Laboratory
 217 Technical Physics II Laboratory

221	General Physics I
222	General Physics II
225	College Physics I
226	College Physics II
231	General Physics I Laboratory
232	General Physics II Laboratory
235	College Physics I Laboratory
236	College Physics II Laboratory
400	Physical Mechanics I
401	Mathematical Physics
402	Thermodynamics
403	Electromagnetism I
404	Physical Optics
405	X-Ray Diffraction
406	Introduction To Modern Physics
408	Solid State Physics
410	Introduction To Special Relativity
411	Introduction to Astrophysics
423	Physics Seminar
430	Physics Research I
431	Physics Research II
555	Advanced Laboratory I
556	Advanced Laboratory II
557	Advanced Laboratory III
600	Physical Mechanics II
603	Electromagnetism II
604	Electromagnetism III
605	Quantum Mechanics I
606	Nuclear Physics
615	Quantum Mechanics II
705	General Physics for Science Teachers I
706	General Physics for Science Teachers II
707	Electricity for Science Teachers
708	Modern Physics for Science Teachers I
709	Modern Physics for Science Teachers II

Course descriptions are available upon request from the Dean of the School.

Department of Political Science

Amarjit Singh, Chairperson

OBJECTIVES

The Department of Political Science offers courses in four principal fields: American Government, Public Policy and Administration, Political Theory and Methodology and International Affairs.

The purpose of the department is to provide the students with a basic

knowledge of theories, institutions, and processes of politics and public policy. The objectives are to develop an understanding of the operation of government at various levels, encourage students to engage in critical discourse of political and social problems, develop competence in the language and skills of the discipline, and to prepare students for advanced study.

The Department of Political Science is in the process of developing its quantitative research and policy analysis capability under a grant funded by the U.S. Department of Education. Political Science majors are advised and guided into computer assisted instruction courses to develop their quantitative skills.

DEGREE OFFERED

Political Science—B.A.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree program in the Department of Political Science is based upon the general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

The major in political science must complete 124 semester hours of University courses. Included in the 124 semester hours are 31 hours of political science courses and 12 hours in a cognate area. A minimum grade of "C" must be attained in these courses.

Students desiring to minor in political science must complete 18 semester hours in political science including Political Science 200, 333, 440, and 443.

CAREER OPPORTUNITIES

A degree in political science prepares students for careers in government, public administration, law (for those continuing to law school), business, industry, foreign service and leadership in civic and political activities.

CURRICULUM GUIDE FOR A MAJOR IN POLITICAL SCIENCE

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 101 or 111	3
History 100	3
Biological Science 100	4
Physical Education	1
Political Science 100	1
	15

<i>Second Semester</i>	Credit
English 101	3
Mathematics 102 or 112	3
History 101	3
**Physical Science 100	4
Physical Education	1
Political Science 200	3
	17

Sophomore Year

<i>First Semester</i>	Credit
Foreign Language	3
Speech 250	2
Political Science 210 or 220	3
History 204	3
Humanities 200	3
Computer Science 160	3
	17

<i>Second Semester</i>	Credit
Foreign Language	3
History 205	3
Humanities 201	3
Philosophy 260 or 262	3
Health Education 200	2
Sociology 302	3
	17

Junior Year

<i>First Semester</i>	Credit
Political Science 440	3
Political Science 333	3
Economics 300 or Transportation 360	3
Psychology 320	3
Suggested Elective: Sociology 303	3
	15

<i>Second Semester</i>	Credit
Economics 301 or 425	3
Political Science 443	3
Political Science Elective	3
Suggested Electives: English 300	3
Speech 251	3
	15

Senior Year

<i>First Semester</i>	
Political Science Elective	6
Political Science Elective	3
*Electives	3
*Electives	2
	<hr/> 14
<i>Second Semester</i>	
Political Science Elective	3
Political Science Elective	3
*Electives	3
*Electives	2
	<hr/> 11

*Students are advised to choose their electives from the following disciplines in order to fulfill the cognate area requirement of twelve (12) credit hours: English, Economics, Transportation, Business Administration, Sociology, Mass Communications and History.

**Physics 101 (Introduction to Astronomy) may be substituted for Physical Science 100.

NOTE: Students interested in pursuing a legal career should consult with their faculty advisors concerning useful pre-law courses in Political Science and other related academic disciplines.

DIRECTORY OF FACULTY AND COURSES

Political Science

Amarjit Singh, B.A., Punjab University; LL.B., University of Delhi; M.I.S., Ph.D., Claremont Graduate School; Professor and Chairperson

Phung Nguyen, B.A., M.A., National School of Administration, Saigon; M.B.A., Dalat University, Saigon; M.A., Ph.D., Duke University; Assistant Professor

Charlie Jones, B.A., M.A., Ph.D., Ohio State University; Assistant Professor

Samuel A. Moseley, B.A., North Carolina A. and T. State University; M.A., Ph.D. Candidate, The Ohio State University; Instructor

Johnson, Kofi, B.A., M.A., University of North Dakota; Ph.D., Howard University; Visiting Assistant Professor

Courses

- *100 Orientation to Political Science
- *200 American Government and Politics
- 210 State and Local Government

- 220 Blacks in the American Political System
- 250 Introduction to Public Policy
- 300 Policy Formulation
- *333 Introduction to Political Research
- 400 Mass Political Attitudes and Behavior
- 410 Public Policy and Technology
- *440 Political Theory
- *443 Public Administration
- 444 International Relations
- 445 Problems of Contemporary Africa
- 448 Politics of Transportation
- 450 Administrative Behavior
- 460 Fundamentals of Planning
- 470 Policy Evaluation
- 499 Internship I
- 504 Independent Study
- 505 Honors Seminar in Political Science
- 541 Party Politics and Pressure Groups
- 542 American Constitutional Law
- 543 Civil Liberties
- 544 International Organization
- 599 Internship II
- 604 Directed Study/Research
- 640 Federal Government
- 641 Seminar in State Political Problems
- 642 Modern Political Theory
- 643 Urban Politics and Government
- 644 International Law
- 645 American Foreign Policy—1945 to Present
- 646 The Politics of Developing Nations
- 647 Research and Current Problems
- 653 Urban Problems

*Required

Course descriptions are available upon request from the Dean of the School.

Department of Psychology

Emory Sadler, Chairperson

OBJECTIVES

The Department of Psychology serves the University by offering the undergraduate major in psychology and by providing service courses for other departments. The psychology program prepares students for

graduate study in psychology and associated fields, as well as providing them with skills related to employment at the baccalaureate level.

DEGREES OFFERED

B.A. degree in Psychology

DEPARTMENTAL REQUIREMENTS

Psychology major—The major in psychology must complete 124 semester hours of University courses. Included in the 124 semester hours are 54 hours of general education requirements, 47 hours of psychology courses, and 23 hours of free electives.

The Minor in Psychology—Students desiring to minor in psychology must complete Psy. 320, Psy. 322, and an additional 18 semester hours in psychology.

CAREER OPPORTUNITIES

To function as a professional psychologist, it is necessary to complete graduate training in the discipline. Career opportunities in psychology at the baccalaureate level are limited.

SUGGESTED CURRICULUM GUIDE FOR A MAJOR IN PSYCHOLOGY

Freshman Year

<i>First Semester</i>	Credit
Biology 100	4
English 100	3
History 100	3
Mathematics 101	3
Physical Education 101	1
	<hr/> 14

<i>Second Semester</i>	Credit
Physical Science 100	3
Physical Science 110	1
English 101	3
Psychology 321	3
Mathematics 102	3
Physical Education 102	1
History 101	3
	<hr/> 17

Sophomore Year

<i>First Semester</i>	Credit
Foreign Language	3
Humanities 200	3
Speech 250	2
Health Education 200	2
Psychology 322	4
Psychology 324	3
	<hr/> 17

<i>Second Semester</i>	Credit
Foreign Language	3
Humanities 201	3
Sociology 100	3
Psychology 325 or 326	3
Psychology 440	4
	<hr/> 16

Junior Year

<i>First Semester</i>	Credit
Psychology 420	3
Psychology 441 (or Psy. elect.)	3
Humanities elective	3
Psychology elective	3
Free elective	3
	<hr/> 15

<i>Second Semester</i>	Credit
Zoology 461	4
Psychology 439	3
Psychology 434	3
Free elective	5
	<hr/> 15

Senior Year

<i>First Semester</i>	Credit
Psychology 542	3
Free electives	9
Psychology elective	3
	<hr/> 15

<i>Second Semester</i>	Credit
Psychology 540 and/or 541	3-6
Free electives	6
Psychology elective	3
Psychology 544	3
	<hr/> 15

DIRECTORY OF FACULTY AND COURSES

Psychology Faculty

Mildred Bonner, R.N., Meharry Medical College; B.S., M.S., Tennessee A. and I. State University; Associate Professor

Hattye Liston, B.S., North Carolina College; M.A., New York University; Associate Professor

Eugene Runyon, B.S., M.S., Ph.D., Case Western Reserve University; Professor

Emory Sadler, B.S., M.S., North Carolina State University; Ph.D., Emory University; Associate Professor and Chairperson

Susan Schumacher, B.A., Roanoke College; M.A., Hollins College; Ph.D., The University of North Carolina at Greensboro; Associate Professor

Sarla Sharma, B.A., Banaras Hindu University; M.A., The University of Chicago; Ed.D., The University of North Carolina at Greensboro; Professor

Robert Wilson, B.A., M.S., Ph.D., Pennsylvania State University; Assistant Professor and Director of Counseling Services

Courses

320 General Psychology

321 Elementary Psychology

322 Statistical Methods/Laboratory

324 Developmental Psychology I

325 Developmental Psychology II

326 Developmental Psychology III

420 Social Psychology

434 Abnormal Psychology

439 Theories of Personality

440 Introduction to Psychological Research/Laboratory

441 Human Information Processing

444 Applied Psychology

445 Industrial Psychology/Laboratory

500 Independent Study

540 Physiological Psychology/Laboratory

541 Psychology of Learning

542 Seminar in Psychology

544 Psychological Testing/Laboratory

545 History and Systems in Psychology

645 Behavior Modification

Course descriptions are available upon request from the Dean of the School.

Department of Sociology and Social Work

Sarah V. Kirk, Chairperson

OBJECTIVES

The objectives of the Sociology/Social Work Department are to prepare students for careers at the baccalaureate level in Social Work; To provide Sociological background for students in the University and to prepare departmental majors for graduate study in Sociology or Social Work.

DEGREES OFFERED

Sociology—B.A.
Bachelor of Social Work—B.S.W.

GENERAL PROGRAM REQUIREMENTS

Students are admitted to the department on the basis of general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

Sociology Major—Completion of a minimum of 124 semester hours of University courses. Included in the 124 semester hours are 40 hours of Sociology at the 200 level or above. A minimum grade of "C" must be achieved in these courses.

Social Work Major—Completion of a minimum of 124 semester hours of University courses. Included in the 124 semester hours are 34 semester hours of Social Services and 22 semester hours of Sociology at the 200 level or above. A minimum grade of "C" must be achieved in these courses.

Certification in School Social Work—Included in the 124 semester hours are the 34 semester hours in Social Service; 22 semester hours in Sociology and 5-6 hours in Education. A minimum grade of "C" must be achieved in these courses.

CAREER OPPORTUNITIES

A degree in Social Work provides students with the competencies essential for immediate entry into the professional field of Social Work. Since it is a nationally accredited program students may take courses which are sometimes used for advanced standing when they are admitted to graduate programs in Social Work.

** The Social Work Program is accredited by the Council on Social Work Education and in cooperation with the School of Education is authorized to recommend candidates for Baccalaureate Certification in School Social Work.*

A degree in Sociology is preparatory for graduate study in Sociology and can serve as the basic preparation for study of law, social work and public administration and entry into government service positions.

SUGGESTED CURRICULUM GUIDE FOR BACHELOR OF ARTS DEGREE IN SOCIOLOGY (1983-1984)

During the Freshman and Sophomore Years the following Courses should be completed:

Biology 100 and Earth Science 201	7
English 100, 101	6
Speech 250	2
Foreign Language	6
Health Education 200	2
Mathematics 101, 102, 160	9
Philosophy 262 and Phil. Elective	6
Sociology 100, 101, 204, 302, and 303	15
Sociology Elective	3
Sociology 301	3
Bus. Ed. 301	3
Total Credits	61

During the Junior and Senior Years the following Courses should be completed:

Concentration in one of the following: Political Science, Economics, Psychology, Anthropology, History, Manpower, Transportation or Mass Communication	18
English 300 and English Elective	6
Sociology 308 or 501, 402, 403, 671, 673, 674; 406 or 503	21
Suggested Sociology Electives: 669 or 670	6
Sociology/Social Service 570	1
Free Electives	12
Total Credits	63

SUGGESTED CURRICULUM GUIDE FOR BACHELOR OF SCIENCE DEGREE IN SOCIAL WORK

During the Freshman and Sophomore Years the following Courses should be completed:

Political Science 200, 210, 443 or Economics 300, 301 and BA 422	9
Psychology 320 and 324 or 325 or Anthropology 200 and 300	6
Biology 100 and Earth Science 201	7
Mathematics 101, 102, 160	9-8
Foreign Language (one language)	6
English 100, 101	6
Speech 250	2

Health Education 200	2
Social Service 133 or appropriate elective	3
Sociology 100, 101, 320, 204	12
Business Education (Typing)	2

During the Junior and Senior Years the following Courses should be completed:

English 300 and American or English Literature	6
Sociology 301, 402, 403, 674	12
Social Service 306, 307, 333, 334, 520, 571, 210, 674	26
Philosophy 262 and 260 or 261 or 608	6
Sociology/Social Service 570	1
Social Service elective	3
Electives to total 124 semester hours	9

DIRECTORY OF FACULTY AND COURSES

Sociology/Social Work

Christine Boone, B.A., North Carolina Central University; M.S.W., Rutgers University; Assistant Professor
Robert Davis, B.A., Southern University; M.A., Atlanta University; Ph.D., Washington State University; Post-Doctoral, University of Wisconsin-Madison; Associate Professor
Abdulla Hagey, B.S., Portland State University; B.A., University of Pacific; C.P.H., Portland State University; A.A., College of San Mateo; M.S., University of Oregon; M.A., University of Oregon; M.A., University of Connecticut; Ph.D., University of Oregon; Associate Professor
David Johnson, B.A., Hamilton College; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill; Associate Professor
James Johnson, B.S., North Carolina A&T State University; M.S.W., University of North Carolina at Chapel Hill; J.D., North Carolina Central University; Associate Professor
Sarah Kirk, B.A., St. Augustine College; M.S.W., Atlanta University; M.S., University of Pittsburgh; Ph.D., University of Pittsburgh; Associate Professor
Lawrence Shornack, B.A., Rutgers University; M.A., New York University; Ph.D., New York University; Associate Professor

Ruthena Smith, B.S., North Carolina A&T State University; M.S.W., University of Connecticut; Assistant Professor
Fasihuddin Ahmed, B.A., Forman Christian College; M.A., University of the Punjab; Ph.D., University of Chicago; Associate Professor

Courses

100 Principles of Sociology
101 Basic Quantitative Analysis in Sociology
204 Social Problems
301 Origins of Social Thought
302 Social Statistics I
303 Social Statistics II
304 Social Aspects of Human Sexuality
305 Readings for Honors in Sociology
308 Family
312 Major Problems of Family Functioning
313 The Community
323 Introduction to Family Therapy
402 Social Theories
403 Research Methods I
406 Criminology
408 Independent Study I
501 Social Stratification
503 Juvenile Delinquency
671 Research Methods II
672 Selected Issues in Sociology
673 Population Studies
674 Evaluation of Social Programs
133 Social Professions, Fields and Services
210 Professional Relationship Skills
306 Social Functioning and Human Development
307 Field Instruction I & II
309 Disability and Employment
318 Practicum in the Community
320 Readings for Honors in Social Welfare
325 Honors Seminar in Social Service
333 Social Welfare
334 Social Work Methods I
372 Child Welfare I
374 Institutional Services for Children
200 Introduction to Anthropology
520 Independent Study—Social Service
300 Topics in Cultural Anthropology
420 Human Evolution in Ecological Perspective
603 Introduction to Folklore
650 Independent Study in Anthropology
651 Anthropological Experience
700 Seminar in Cultural Factors in Communication

310 Medical Sociology
 311 Sociology of Mental Health
 314 Black Experience
 370 Aging in Society
 515 Independent Study II
 570 Senior Seminar
 600 Seminar in Social Planning
 601 Seminar in Urban Studies
 625 Sociology/Social Service
 Internship
 669 Small Groups
 670 Law and Society
 571 Social Work Methods II
 373 Child Welfare II

Course descriptions are available upon request from the Dean of the School.

Department of Speech Communi- cation and Theatre Arts

Mary M. Tuggle, Chairperson

OBJECTIVES

The objectives of the Department of Speech Communication and Theatre Arts are as follows:

1. To develop students with competence in the total process of speech communication, traditional and contemporary.
2. To develop speech and theatre teachers, mass communication specialists, and professional theatricians with personal competence in speech communication.
3. To prepare students for successful study at the graduate level in various speech and theatre arts disciplines and in speech-oriented careers such as law, business, government, public relations, speech pathology/audiology and the ministry.
4. To develop in the student the power of independent and creative thinking, critical judgement, integrity and individual initiative.
5. To provide students with sufficient internships and study

experiences in order for them to gain much needed vocational skills.

6. To provide a variety of speech courses to meet the University's general education requirements.

DEGREES OFFERED

The Department offers three undergraduate degree programs, which are:

- B.A.—Speech and Theatre Education
- B.F.A.—Professional Theatre
- B.A.—Professional Speech and Theatre Arts with concentrations in the following:
 Personnel and Public Relations
 Mass Communication Broadcast
 Speech Pathology/Audiology

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree program in the Department of Speech Communication and Theatre Arts is based upon the general admission requirements of the University.

All majors in the Department of Speech Communication and Theatre Arts are expected to maintain a minimum grade point average of 2.0.

DEPARTMENTAL REQUIREMENTS

Speech Communication and Theatre Arts Teaching Major—The teacher education major must complete a minimum of 124 semester hours of University courses. Included in the 124 semester hours are forty-two semester hours of speech and theatre courses at the 200 level or above and 25 semester hours of required education courses. A minimum grade of "C" must be achieved in these courses.

Professional Speech Communication and Theatre Arts with a concentration in Personnel and Public Relations—The student pursuing this major must complete a minimum of 124 semester hours of University courses. Included in these 124 semester hours are forty-four semester hours of speech and theatre courses and twelve semester hours in English courses or allied electives at the 200 level or above. A minimum grade of "C" must be achieved in these courses.

Speech Pathology and Audiology Option—Students pursuing this program must complete a minimum of 124 semester hours of University courses. Included in the 124 semester hours are forty-five semester hours of speech communication courses at the 200 level or above. A minimum grade of "C" must be achieved in the speech communication courses.

Mass Communication Option—The mass communications option is an interdisciplinary sequence (English and Speech) of study. Students pursuing this program must complete a minimum of 124 semester hours of University courses. Included in these 124 semester hours are forty-one semester hours in speech and theatre courses and fifteen semester hours in English courses at the 200 level or above. These courses must be completed with a grade of "C" or better.

Professional Theatre—A major in professional theatre must complete a minimum of 124 semester hours of University courses. Included in the 124 semester hours are fifty-two semester hours of speech and theatre courses at the 200 level or above. A minimum of "C" must be achieved in these courses.

CAREER OPPORTUNITIES

Prospects of employment with a teaching degree in Speech Communication will vary dependent upon the geographic location. An advanced degree in teaching will provide more flexibility in the selection of available positions in public, private and parochial junior and senior high schools and in colleges and universities. Due to the projected decline in student enrollment through 1985, alternatives to secondary teaching should be considered.

A liberal arts degree in speech communication and theatre arts will prepare students for careers in personnel and public relations. Corporations, consulting firms, manufacturing firms, educational institutions and state and local government agencies will provide many job opportunities in personnel and public relations through 1985. Competition at the entry level will be keen.

Careers in the areas of speech pathology and audiology are expected to increase through the mid-1980's. With a master's degree, employment in clinics, schools, hospitals, state and

federal government agencies, industry and private practice is favorable but competitive, dependent upon the geographic location. Competition for teaching positions in colleges and universities will be very keen.

Entry level jobs in radio and television broadcasting are numerous, specifically in programming, sales and management. New radio stations can be expected to go on the air, especially in small communities. Educational television is expanding and will seek persons with knowledge in programming, community relations and station management. An increase in cable television networks centers will provide opportunities in professional, technical and maintenance areas. Employment growth in radio and television broadcasting is expected to increase through the mid-1980's.

Theatre arts careers in areas aside from acting are just beginning to unfold. Job opportunities in scene design and technical theatre, and theatre management are expected to increase into the mid-80's with the advent of regional repertory theatres.

A graduate degree is necessary to pursue a career in these areas. A degree in professional theatre may also prepare students for careers in drama therapy, interior decorating and design and home planning.

SUGGESTED CURRICULUM GUIDE FOR PROFESSIONAL SPEECH AND THEATRE ARTS MAJOR

(Mass Communications Option)

Bachelor of Arts

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Math 101	3
History 100	3
Biological Science 100	4
Physical Education 101 or Health Education 200	1-2
Free Electives (Including ROTC or Ed 100)	1
	<hr/> 15-16

<i>Second Semester</i>	Credit
English 101	3
Math 102	3
History 101	3
Physical Sciences	3-4
Physical Education 102 or Health Education 200	1-2
Speech 216	1
	<hr/> 14-16

Sophomore Year

<i>First Semester</i>	Credit
**Foreign Language (German, French, Spanish)	3
Humanities 200 or 202	3
Speech 250	2
Humanities Elective	3
English 300	3
Behavioral Science Elective	3
	<hr/> 17

<i>Second Semester</i>	Credit
**Foreign Language (German, French, Spanish)	3
Humanities 201 or 202	3
Speech 421	3
Psychology 320	3
English 225	3
	<hr/> 15



Junior Year

<i>First Semester</i>	Credit
Speech 340	3
Speech 255	3
Speech 251	3
English 332	3
Speech 256	3
	<u>15</u>

<i>Second Semester</i>	Credit
Speech 468	3
Speech 350	3
Speech 351	3
Theater 302	3
Humanities Elective	3
Major Elective	3
	<u>18</u>

Senior Year

<i>First Semester</i>	Credit
Major Electives	6
Free Electives	6
Speech 636 or 252	3
	<u>15</u>
<i>Second Semester</i>	Credit
Free Electives	9
English 470	6
	<u>15</u>

TOTAL HOURS 124-127

*** Take Elementary through Intermediate Level (12 hours) with no high school background in that particular language. Take Intermediate Level (6 hours) with a high school background in that particular language.*

**SUGGESTED CURRICULUM
GUIDE FOR PROFESSIONAL
THEATRE MAJOR**

Bachelor of Fine Arts**Freshman Year**

<i>First Semester</i>	Credit
English 100	3
Math 101	3
History 100	3
Biological Science 100	4
Speech 216	1
Health Educ. 200	2
	<u>16</u>

<i>Second Semester</i>	Credit
English 101	3
Math 102	3
History 101	3
Physics 101	3
Speech 250	2
Theatre 305	2
	<u>16</u>

Sophomore Year

<i>First Semester</i>	Credit
**Foreign Language (German, French, Spanish)	3
Humanities 200	3
Theatre 301	3
Theatre 302	3
Speech 421	2
Music 114	1
Major Elective (Theatre 652)	2
	<u>17</u>

<i>Second Semester</i>	Credit
**Foreign Language (German, French, Spanish)	3
Humanities 201	3
Theatre 441	3
Psychology 320	3
Theatre 654	3
	<u>15</u>

Junior Year

<i>First Semester</i>	Credit
**Foreign Language	3
Theatre 500	3
Theatre 400	3
Theatre 620	3
Theatre 442	3
	<u>15</u>

<i>Second Semester</i>	Credit
**Foreign Language	3
Theatre 501	3
Theatre 440	3
Major Elective	3
Humanities Electives	6
	<u>18</u>

Senior Year

<i>First Semester</i>	Credit
Theatre 656 or 655	3
Theatre 630	3
Theatre 653 or 457	3
Free Elective	3
	<u>12</u>

<i>Second Semester</i>	Credit
Theatre 651	3
Theatre 650	3
Behavioral Sciences	3
Theatre 667	3
Free Elective	3
	<u>15</u>

TOTAL HOURS 124-125

*** Take Elementary through Intermediate Level (12 hours) with no high school background in that particular language. Take Intermediate Level (6 hours) with a high school background in that particular language.*

**SUGGESTED CURRICULUM
GUIDE FOR PROFESSIONAL
SPEECH COMMUNICATION
AND THEATRE ARTS MAJOR**

(Speech Pathology Option)

Bachelor of Arts**Freshman Year**

<i>First Semester</i>	Credit
English 100	3
Math 101	3
History 100	3
Biological Science 100	4
Physical Education 101 or Health Education 200	1-2
Free Elective (Including ROTC)	1
	<u>15-16</u>

<i>Second Semester</i>	Credit
English 101	3
Math 102	3
History 101	3
Biology 461	4
Physical Education 101 or Health Education 100	1-2
Art 224	2
	<u>16-17</u>

Sophomore Year

<i>First Semester</i>	Credit
**Foreign Language (German, French, Spanish)	3
Humanities 200 or 202	3
Psychology 320	3
Speech 250	2
Sociology 100	3
Speech 380	3
	<u>17</u>

<i>Second Semester</i>	Credit
**Foreign Language (German, French, Spanish)	3
Humanities 201 or 202	3
Electives	3
English 300	3
Speech 216	1
Music 216	3
	<u>16</u>

Junior Year

<i>First Semester</i>	Credit
Major Elective (Theatre 620)	3
Speech 340	3
Speech 407	3
Speech 415	3
Free Electives (Speech 421)	3
	<u>15</u>

<i>Second Semester</i>	Credit
Speech 404	3
Speech 425	3
Major Electives	
(Speech 420, 636)	3
Free Electives	6
	<u>15</u>

Senior Year

<i>First Semester</i>	Credit
Speech 430	3
Speech 431	3
Free Elective	3
Speech 550	3
Speech 251	3
	<u>15</u>

<i>Second Semester</i>	Credit
Speech 450	3
Speech 510	3
Free Electives	6
Sociology 302	3
	<u>15</u>

TOTAL HOURS 124-126

*** Take Elementary through Intermediate Level (12 hours) with no high school background in that particular language. Take Intermediate Level (6 hours) with a high school background in that particular language.*

SUGGESTED CURRICULUM GUIDE FOR TEACHING SPEECH AND THEATER ARTS

Bachelor of Arts

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Math 101	3
History 100	3
Biology 100	4
Physical Education 101	1
Health Education 200	2
	<u>16</u>

<i>Second Semester</i>	Credit
English 101	3
Math 102	3
History 101	3
Chemistry 100	4
Physical Education 102	1
Education 300	2
	<u>16</u>

Sophomore Year

<i>First Semester</i>	Credit
**Foreign Languages (German, French, Spanish)	3
Humanities 200	3
Theatre 301	3
Theatre 302	3
Psychology 320	3
Speech 250	2
	<u>17</u>

<i>Second Semester</i>	Credit
**Foreign Languages (German, French, Spanish)	3
Humanities 201	3
Speech 251	3
Speech 252	3
Speech 340	3
Speech 216	1
	<u>16</u>

Junior Year

<i>First Semester</i>	Credit
Education 301	2
Speech 380	3
Theatre 500	3
Humanities Electives	6
English 450	3
	<u>17</u>

<i>Second Semester</i>	Credit
Education 400	3
Education 436	3
Theatre 501	3
Speech 420	3
Theatre 440	3
	<u>15</u>

Senior Year

<i>First Semester</i>	Credit
Speech 421	3
Major Electives	
(Th. 620, Spch. 256)	6
Education 637	3
Behavioral Science	3
	<u>15</u>

<i>Second Semester</i>	Credit
Education 500	3
Education 539	3
Education 560	6
	<u>12</u>

TOTAL HOURS: 124

*** Take Elementary through Intermediate Level (12 hours) with no high school background in that particular language. Take Intermediate Level (6 hours) with a high school background in that particular language.*

GUIDE FOR PROFESSIONAL SPEECH AND THEATER ARTS

(Personnel and Public Relations Option)

Bachelor of Arts

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Math 101	3
History 100	3
Biological Science 100	4
Physical Education 101 or Health Education 200	1-2
Free Elective (ROTC or Ed. 100)	1
	<u>15-16</u>

<i>Second Semester</i>	Credit
English 101	3
Math 102	3
History 101	3
Chemistry 100	4
Physical Education 102 or Health Education 200	1-2
Speech 216	1
	<u>15-16</u>

Sophomore Year

<i>First Semester</i>	Credit
**Foreign Languages (German, French, Spanish)	3
Humanities 200 or 202	3
Speech 250	2
Speech 253	2
English 300	3
Behavioral Science	3
	<u>16</u>

<i>Second Semester</i>	Credit
**Foreign Languages (German, French, Spanish)	3
Humanities 201 or 202	3
Speech 252	3
Psychology 320	3
Speech 251	3
	<u>15</u>

Junior Year

<i>First Semester</i>	Credit
Speech 340	3
Humanities Elective	3
Speech 335	3
English 225	3
Theatre 302	3
	<u>15</u>

<i>Second Semester</i>	Credit
English 464	3
Speech 380	3
Speech 420	3
Humanities Elective	3
Speech 421	3
Free Elective	3
	<hr/> 18

Senior Year

<i>First Semester</i>	Credit
Major Electives	6
Free Electives	6
Theater 500	3
	<hr/> 15

<i>Second Semester</i>	Credit
Free Electives	9
Speech 636	3
Theater 650	3
	<hr/> 15

TOTAL HOURS 124-125

*** Take Elementary through Intermediate Level (12 hours) with no high school background in that particular language.*

Take Intermediate Level (6 hours) with a high school background in that particular language.

DIRECTORY OF FACULTY AND COURSES

Faculty

Cathy Ayers, B.A., University of Alabama; M.A., University of Alabama; Visiting Instructor
Donald E. Coffey, B.A., South Carolina State College; M.A., Northern Arizona University; Visiting Instructor
Richard Edwards, B.S., Alburn University; M.M.A., University of South Carolina; Director University Television Studio.

H. D. Flowers, II, B.A., Grambling State University; M.A., Florida Atlantic University; M.F.A., Yale University, Ph.D., Southern Illinois University, Executive Director, Paul Robeson Theatre, Professor
Lois B. Kinney, B.A., Wilberforce University; M.A., Ohio State University; Ph.D., Ohio State University; Professor
R. Paul Thomason, B.A., South Carolina State University; M.Ed., Bowie State University; Instructor and Technical Director Paul Robeson Theatre
Mary M. Tuggle, B.S., Hampton Institute; M.Ed., Marygrove College; Ph.D., Michigan State University; Assistant Professor and Chairperson
Anthony Welborne, B.S., North Carolina A&T State University; M.S., North Carolina A&T State University; General Manager, University Radio Station

Courses

216 Voice and Diction Laboratory
250 Speech Fundamentals
251 Public Speaking
252 Argumentation and Debate
253 Parliamentary Procedures
255 & 350 Radio Production I and II
256 & 351 Television Production I and II
260 Minorities in Mass Media
335 Rhetoric of American Thought
340 Phonetics
380 Introduction to Speech Pathology
404 Voice and Articulation Disorders
407 Introduction to Audiology
415 Anatomy and Physiology of the Ear and Vocal Mechanism
420 Group Discussion
421 Oral Reading and Interpretation
425 Principles of Audiometry
430 Development of Speech and Language in Children
431 Organic Disorders
450 Aural Rehabilitation
460 National and International Broadcasting
468 Broadcast Management and Programming
491 Cable-TV Seminar
510 Introduction to Stuttering
539 Methods of Teaching Speech and Theatre
550 & 551 Clinical Practicum I and II
633 Speech for Teachers
636 Persuasive Communication
100 Speech and Theatre Lab
200 Speech and Theatre Lab
300 Speech and Theatre Lab
400 Speech and Theatre Lab
301 Acting
302 Elements of Play Production
305 Theatre Movement
400 Scene Design
440 Play Directing
441 Stagecraft
442 Stage Lighting
457 Essentials of Playwriting
500 & 501 History of the Theatre I and II
620 Creative Dramatics
630 Black American Drama
631 Modern American Drama and Theatre Since 1900
650 Theatre Management
651 Children's Theatre
652 Stage Make-up
653 Principles and Practice of Stage Costume
654 Problems in Acting
655 Advanced Play Production
656 Advanced Directing
666 Styles of Acting
667 Seminar in Theatre

Course descriptions are available upon request from the Dean of the School.



SCHOOL OF BUSINESS AND ECONOMICS

Quiester Craig, Dean
Danny Pogue, Assistant Dean

OBJECTIVES

A primary goal of the School of Business and Economics is to develop business leaders who are capable of coping with new technologies and social progress. Associated with this goal is a commitment to the objectives of quality instruction, research, to professional development, and programs and service to the community, state, and nation. The School of Business and Economics also serves to perpetuate a general understanding and appreciation for the interrelationships of the national as well as world environments. The scope of the school's programs includes curricula based primarily upon key concepts and skills necessary for decision-making and problem-solving roles in business, industry, government, and education.

ACCREDITATION

The undergraduate business programs of the School of Business and Economics are accredited by the American Assembly of Collegiate Schools of Business (AACSB).

DEGREES OFFERED

Accounting—B.S.
Administrative Services—B.S.
Business Administration—B.S.
Business Education (Basic)—B.S.
Business Education (Comprehensive)—B.S.
Economics—B.S.
Transportation—B.S.

COURSE LOAD

The normal course load is fifteen to seventeen (15-17) credit hours. A full-time undergraduate student is required to carry a minimum of twelve (12) credit hours. Students majoring in the School of Business

and Economics *may not* enroll for more than eighteen hours without the approval of the Department Chairperson and the Dean.

GENERAL PROGRAM REQUIREMENTS

The student is held responsible for the selection of courses in conformity with the curriculum of his/her choice. A student who enters the School of Business and Economics has the privilege of graduating under the provisions of the Bulletin current upon admission provided all requirements are completed within six years. If all requirements are not completed within six years after admission, the student is expected to conform to the Bulletin requirements specified for the class with which graduation is anticipated.

The applicant for graduation must have earned a minimum of 124 semester hours excluding deficiency and/or remedial course work with a cumulative grade point average of 2.00 or better for all courses taken. Students in the School of Business and Economics must earn a minimum grade of "C" in English 100, 101; Mathematics 111, 112; and, BE 360. Students must also present a minimum cumulative grade point average of 2.00 in the major field of study which includes the minimum of a "C" grade in at least 8 (24 hours) of the 10 (30 hours) courses listed as major program requirements in the applicable University Bulletin for the selected courses of study. (Economics majors should check program for major program requirements).

PROFICIENCY EXAMINATIONS

Students who have had some training or experience in certain fields offered in the School of Business and Economics will be given an opportunity to take an examination with the permission of the Chairperson of the Department and the approval of the Dean of the School of Business and Economics. A student who passes a proficiency examination is given credit toward graduation, provided that the course is acceptable for his/her curriculum. Credit is given only if a grade of "C" is made on the examination. A grade of "P" is recorded on the student's record. No official record is made of failures on

these examinations.

Proficiency examinations are given under the following restrictions:

1. They may be taken only by persons who are in residence at the University.
2. They may not be taken to raise grades or remove failures in courses.
3. They may be taken only once in the same course.

SENIOR RESIDENCE REQUIREMENT

Students must complete a minimum of three semesters as a full-time student in residence at the University which includes the two semesters prior to graduation. At least one half of the student's credit in the major field must be earned at the University. Exception to either of these provisions may be made upon the recommendation of the Chairperson of the student's major department and the approval of the Dean of the School of Business and Economics.

SCHOOL REQUIREMENTS

All business programs require the completion of Business and Economics Core requirements including the following courses: Acc 221, 222, BE 360, BA 341, 422, 430, 461, 453, 481, 520, and Econ. 415 (BA 440 or BA 551 required for accounting majors; BE 379 required for Business Education majors instead of Econ. 415).

Department of Accounting

Mark Kiel, Chairperson

OBJECTIVES

The successful practice of accounting today requires both technical competence in accounting and a thorough understanding of the economic environment in which accounting operates. Only by understanding the objectives and constraints of the economic environment is the accountant able to apply technical competence toward the solution of business problems. The objectives of the Accounting program are to present a broad exposure to the related business disciplines and to

provide quality instruction, research in accounting and accounting education, and service to the community. The curriculum also provides the opportunity for interested students to prepare for the CPA Examination.

DEGREE OFFERED

Accounting—B.S.

GENERAL PROGRAM REQUIREMENTS

The major in Accounting must complete a minimum of 124 semester hours consistent with the curriculum guide presented below. Accounting majors must earn a minimum grade of "C" in English 100, 101, Mathematics 111, 112 and B.E. 360.

DEPARTMENTAL REQUIREMENTS

Majors in the department must earn a minimum of a "C" grade in at least 8 (24 hours) of the 10 (30 hours) courses listed as major program requirements for Accounting in the applicable University Bulletin. Also, students *must* earn a minimum grade of "C" in *each* of the following Accounting courses: Accounting 221, 222, 441, and 442.

CAREER OPPORTUNITIES

Students majoring in Accounting will be prepared for careers in public and/or corporate accounting, business and government, and receive quality instruction for a background for graduate study.

CURRICULUM GUIDE FOR THE MAJOR IN ACCOUNTING

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 111	4
Political Science (Elective) ¹	3
Humanities (Elective) ²	3
Natural Science (Elective) ³	3-4
Physical Education Elective	1
	<hr/> 17-18

Second Semester

English 101	3
Mathematics 112	4
Humanities (Elective) ²	3
Natural Science (Elective) ³	3-4
Business Administration 220	3
Physical Education Elective	1
	<hr/> 17-18

Sophomore Year

<i>First Semester</i>	Credit
Accounting 221	3
Economics 300	3
Business Administration 341	3
Economics 305	3
Psychology 320	3
English 102	2
	<hr/> 17

Second Semester

Accounting 222	3
Economics 301	3
Economics 310	3
Business Education 360	3
Business Education 342	3
Speech 250	2
	<hr/> 17

Junior Year

<i>First Semester</i>	Credit
Accounting 441	3
Accounting 444	3
Business Administration 422	3
Business Administration 453	3
Business Administration 481	3
Elective (Nonbusiness) ⁴	1
	<hr/> 16

Second Semester

Accounting 442	3
Accounting 562	3
Business Administration 430	3
Business Administration 440 or 551	3
Business Administration 482	3
	<hr/> 15

Senior Year

<i>First Semester</i>	Credit
Accounting 443	3
Accounting 545	3
Business Administration 461	3
Nonbusiness Electives ⁵	6
	<hr/> 15



<i>Second Semester</i>	Credit
Accounting 561	3
Accounting Electives ⁶	3
Business Administration ⁷	
462 or 463	3
Business Administration 520	3
	<hr/> 12

*Major Program	Semester
Requirements:	Hours
Accounting 221—Principles of Accounting I	3
Accounting 222—Principles of Accounting II	3
Accounting 441—Intermediate Accounting I	3
Accounting 442—Intermediate Accounting II	3
Accounting 443—Income Tax Accounting	3
Accounting 444—Cost Accounting	3
Accounting 545—Advanced Accounting	3
Accounting 561—Auditing Principles	3
Accounting 562—Accounting Systems	3
Bus. Adm. 453—Business Finance	3
	<hr/> 30

** All majors must earn a minimum of a "C" grade in at least 8 (24 hours) of the 10 (30 hours) courses listed as major program requirements in the applicable University bulletin for the selected area of study. Also, the student must earn a minimum grade of "C" in each of the following four accounting courses: 221, 222, 441, 442.*

¹ Political Science 200, 210 or 220.

² Recommended Courses: Music 216, 217, 220, 221; Humanities 200, 201; and courses from Art, Literature, Foreign Language.

³ Recommended Courses: Biological Science 100; Physical Science 100; Introduction to Astronomy 101; Survey of Physics 201; Earth Science 201.

⁴ Recommended Courses: Speech 216 (Voice and Diction Lab); Physical Education 441 or additional courses in Physical Education.

⁵ English 300, 450; Speech 251, 420; or additional courses in mathematics and computer science.

⁶ From Accounting 445, 590, and 643. Students planning to take the CPA Exam should elect Accounting 590 and/or 643.

⁷ Students planning to take the CPA Exam should elect Business Administration 463.

DIRECTORY OF FACULTY AND COURSES

Accounting

Robert Barrett, B.S., Bentley College; M.B.A., Babson College; CPA; Assistant Professor
Joseph Burns, B.S., Ohio State University; B.A., Ohio State University; J.D., Stetson College of Law; M.A.S., University of Illinois, Champaign-Urbana; CPA; Assistant Professor

Quiester Craig, B.A., Morehouse College; M.B.A., Atlanta University; Ph.D., University of Missouri at Columbia; CPA; Professor and Dean

*Lawrence Gulley, B.S., Florida A&M University; M.B.A., University of Miami; Instructor

Gwendolyn Highsmith, B.S., North Carolina A&T State University; M.B.A., University of Wisconsin at Madison; CPA; Ph.D. Candidate, University of Houston; Assistant Professor

William Frank Kauder, B.S., Georgia Institute of Technology; M.B.A., Tulane University; Ph.D., University of Georgia; Assistant Professor

Helen Kennedy, B.S., Southern University; M.B.A., Louisiana Tech University; Ph.D., Oklahoma State University; Associate Professor

Mark Kiel, B.S., Alabama State University; M.B.A., Atlanta University; Ph.D., University of Georgia; CPA; Associate Professor and Chairperson

Charles Malone, A.B., Boston University College of Liberal Arts; J.D., Boston University School of Law; M.B.A., Columbia University Graduate School of Business; CPA; Assistant Professor

Ida Robinson, B.A., Fisk University; M.A., Columbia University; M.B.A., St. John's University; Instructor

Ferdinand Stout, II, B.S.B.A., Appalachian State University; M.B.A., University of North Carolina at Greensboro; CPA; Instructor

Jerry Thorne, B.S., North Carolina A&T State University; M.B.A., University of Wisconsin at Madison; CPA; Instructor

Courses

221 Principles of Accounting I
222 Principles of Accounting II
441 Intermediate Accounting I
442 Intermediate Accounting II
443 Income Tax Accounting
444 Cost Accounting
445 Selected Topics in Accounting
446 Managerial Accounting
545 Advanced Accounting
561 Auditing Principles
562 Accounting Systems
590 Seminar in Accounting Theory
643 Advanced Income Tax Accounting

** On leave during the 1984-85 year.*

Course descriptions are available upon request from the Dean of the School.

Department of Business Administration

Georgia W. Bowser
Chairperson

OBJECTIVES

The objectives of the Business Administration Department are to provide fundamental knowledge concerning the field of business administration by emphasizing the tools essential for problem solving and decision making and to develop competencies necessary for accomplishing managerial goals.

DEGREES OFFERED

Business Administration—B.S.

GENERAL PROGRAM REQUIREMENTS

The students majoring in Business Administration must complete a minimum of 124 hours consistent with the curriculum guide for the area of study selected. [Business Administration majors must earn a minimum grade of "C" in English 100, 101, mathematics 111, 112, and B.E. 360.]

DEPARTMENTAL REQUIREMENTS

Majors in the Department of Business Administration must select an area of study in banking and finance, management, or marketing. They must earn a minimum grade of "C" in 8 (24 hours) of the 10 (30 hours) courses identified as major program requirements in the applicable University Bulletin for the selected area of study.

CAREER OPPORTUNITIES

Having earned a degree in business administration, students will have acquired the technical preparation and competencies important for careers in such specific fields as

banking and finance, management, and marketing. Flexibility within the degree program also provides students with the training necessary for administrative-based careers in public, private, and entrepreneurial activity.

CURRICULUM GUIDE FOR THE MAJOR IN BUSINESS ADMINISTRATION

The following courses will be taken by all Business Administration Majors:

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Social Science Elective ¹	3
Natural Science Elective ²	3-4
Mathematics 111	4
BA 220—Business Environment	3
	16-17

<i>Second Semester</i>	Credit
English 101	3
Social Science Elective ¹	3
Natural Science Elective ²	3-4
Mathematics 112	4
Health & Physical Ed. Elective	3
	16-17

Sophomore Year

<i>First Semester</i>	Credit
Economics 300	3
Humanities Elective ³	3
Economics 305	3
Accounting 221	3
Speech 250	2
Psychology 320	3
	17

<i>Second Semester</i>	Credit
Economics 301	3
Humanities Elective ³	3
Economics 310	3
Accounting 222	3
BA 341—Intro. to Data Processing	3
	15

¹ Recommended Courses: History 100, 101, 215, 216, 310, 311; Geography 200 and 322; Political Science 200, 210, Sociology 100 and 200.

² Recommended Courses: Biological Science 100; Physical Science 100; Introduction to Astronomy 101; Survey of Physics 201; Plant Science 201.

³ Recommended Courses: Humanities 200, 201; and courses from Art, Music, and/or Literature; Foreign Languages.

BANKING AND FINANCE

Junior Year

<i>First Semester</i>	Credit
BA 481—Management Science	3
BA 422—Intro. to Management	3
BA 453—Business Finance	3
AC 441—Intermediate Accounting I	3
EC 415—Money and Banking	3
	15

<i>Second Semester</i>	Credit
BA 482—Production Management	3
BE 360—Business Communication	3
BA 455—Investments	3
AC 442—Intermediate Accounting II	3
BA 550—Financial Analysis	3
	15

Senior Year

<i>First Semester</i>	Credit
BA 430—Marketing	3
BA 461—Legal Environment of Business	3
BA 551—Financial Management	3
Finance Elective	3
Nonbusiness Elective	3
	15

<i>Second Semester</i>	Credit
BS 462—Business Law	3
BA 520—Business Policy	3
BA 556—Financial Markets	3
Financial Elective	3
Nonbusiness Elective	3
	15

Major Program Requirements:	Semester Hours
BA 422—Introduction to Management	3
BA 462—Business Law	3
BA 453—Business Finance	3
BA 455—Investments	3
BA 550—Financial Analysis	3
BA 551—Financial Management	3
BA 556—Financial Markets	3
Accounting 441—Intermediate Accounting I	3
Accounting 442—Intermediate Accounting II	3
Economics 310—Advanced Statistics	3
	30

¹ Select two courses from the following: BA 464; BA 465; BA 552; Economics 410, 420, and 510, additional courses in Accounting for Computer Science in consultation with adviser]

MANAGEMENT

Junior Year

<i>First Semester</i>	Credit
BA 481—Management Science	3
BA 422—Intro. to Management	3
BA 453—Business Finance	3
BA 430—Marketing	3
AC 446—Managerial Accounting	3
	15

<i>Second Semester</i>	Credit
BA 482—Production Management	3
BE 360—Business Communication	3
BA 550—Financial Analysis	3
BA 539—Marketing Management	3
EC 415—Money and Banking	3
	15

Senior Year

<i>First Semester</i>	Credit
BA 461—Legal Environment of Business	3
BA 522—Personnel Management	3
Management Electives ²	6
Nonbusiness Elective	3
	15

<i>Second Semester</i>	Credit
BA 520—Business Policy	3
BA 462—Business Law	3
Management Elective ²	3
Nonbusiness Elective	6
	15

Major Program Requirements:	Semester Hours
Accounting 446—Managerial Accounting	3
BA 422—Introduction to Management	3
BA 430—Marketing	3
BA 539—Marketing Management	3
BA 462—Business Law	3
BA 453—Business Finance	3
BA 481—Management Science	3
BA 522—Personnel Management	3
BA 550—Financial Analysis	3
Economics 310—Advanced Statistics	3
	30

² Select nine hours from courses in the School of Business and Economics or additional courses in Computer Science or English and Speech in consultation with Advisor.

MARKETING

Junior Year

<i>First Semester</i>	Credit
BA 481—Management Science	3
BA 430—Marketing	3
BA 422—Intro. to Management	3
BA 453—Business Finance	3
AC 446—Managerial Accounting	3
	<u>15</u>

<i>Second Semester</i>	Credit
BA 482—Production Management	3
BA 431—Marketing Communications	3
BA 437—Consumer Behavior	3
EC 415—Money and Banking	3
BE 360—Business Communication	3
	<u>15</u>

Senior Year

<i>First Semester</i>	Credit
BA 461—Legal Environment of Business	3
BA 538—Marketing Research	3
Marketing Elective ³	3
Nonbusiness Elective	6
	<u>15</u>

<i>Second Semester</i>	Credit
BA 520—Business Policy	3
BA 462—Business Law	3
BA 539—Marketing Management	3
Marketing Elective ³	3
Nonbusiness Elective	3
	<u>15</u>

Major Program Requirements:	Semester Hours
BA 422—Introduction to Management	3
BA 430—Marketing	3
BA 431—Marketing Communications	3
BA 437—Consumer Behavior	3
BA 538—Marketing Research	3
BA 539—Marketing Management	3
BA 462—Business Law	3
BA 481—Management Science	3
Accounting 446—Managerial Accounting	3
Economics 310—Advanced Statistics	3
	<u>30</u>

³ Select six credit hours from the following: BA 420; BA 433; BA 435; Psychology 420; BA 440; courses in Transportation; Speech/English in consultation with adviser.

DIRECTORY OF FACULTY AND COURSES

Business Administration

Georgia W. Bowser, B.S., North Carolina Central University; M.S., Ph.D., University of Wisconsin-Madison; Chairperson and Associate Professor

Betty L. Brewer, B.S., East Carolina University; M.B.A., D.B.A., Kent State University; Associate Professor

Claudius B. Claiborne, B.S.M.E., Duke University; M.B.A., Washington University; M.E., Dartmouth College; Adjunct Assistant Professor

Timothy J. Fogarty, B.A., J.D., M.B.A., State University of New York at Buffalo; M.A., University of North Carolina at Greensboro; CPA, Assistant Professor

*Robert L. Howard, B.A., William College; M.B.A., University of Chicago; Ph.D., Ohio State University; Associate Professor

Kalaya Kalayanamit, B.S., Thailand Military Academy; M.B.A., Ph.D., University of Wisconsin; Assistant Professor

Paul Lee, B.S., Providence College of Agriculture, M.S., National Chungshing Univ.; Ph.D., Washington State University; Associate Professor

Margaret T. Myers, B.A., Birmingham University, M.A., Indiana University, M.B.A., Indiana University, Ph.D., Indiana University; Assistant Professor

Japhet H. Nkonge, B.A., North Carolina A. and T. State University; M.B.A., Rutgers University; Ph.D., University of North Carolina at Chapel Hill; Associate Professor

Danny H. Pogue, B.A., Texas College; M.A., Texas Southern University; Ph.D., The Ohio State University; Assistant Dean and Associate Professor

Wildra Ray, B.S., North Carolina A&T State University; M.B.A., Rutgers University; Instructor

Alonzo Redmon, B.S., University of Missouri at Columbia; M.B.A., Indiana University; Ph.D. Candidate, University of North Carolina at Chapel Hill; Assistant Professor

Gary L. Whaley, B.S., M.B.A., Miami University; Ph.D., State University of New York at Buffalo; Assistant Professor

Katie White, B.S., M.S., North Carolina College; Ph.D., University of Illinois; Professor

William C. Wilkinson, B.A., Washington and Lee University; M.S., Yale University; M.B.A., University of Chicago; Ph.D., Yale University; Assistant Professor

LeVon Wilson, B.S., Western Carolina University; J.D., North Carolina Central University; Instructor

* On Leave—1984-85

Courses

220 Business Environment

341 Introduction to Data Processing

420 Human Behavior in Business

422 Introduction to Management

425 Small Business Management

430 Marketing

431 Marketing Communications

433 Retailing

435 Salesmanship

437 Consumer Behavior

440 Business Information Systems

453 Business Finance

455 Investments

461 Legal Environment of Business

462 Business Law

463 Commercial Law

464 Risk and Insurance

465 Real Estate

470 Urban Transportation Concepts

481 Management Science

482 Production Management

520 Business Policy

522 Personnel Management

524 Management Simulation

538 Marketing Research

539 Marketing Management

550 Financial Analysis

551 Financial Management

552 Commercial Bank Management

555 Securities Analysis and Management

556 Financial Markets

557 Cases in Business Finance

610 Interdisciplinary Seminar in Transportation

Course descriptions are available upon request from the Dean of the School.

Department of Business Educa- tion and Administrative Services

Meada Gibbs, Chairperson

OBJECTIVES

The objectives of the Department of Business Education and Administrative Services are to provide quality instruction for the development of basic and comprehensive business teachers and to prepare students for managerial-level service roles in business, government, and the professions.

DEGREES OFFERED

The Department of Business Education and Administrative Services offers the following degrees:

Administrative Services—B.S.
Basic Business Education—B.S.
Comprehensive Business Education—B.S.

GENERAL PROGRAM REQUIREMENTS

Students majoring in programs in the Department of Business Education and Administrative Services must complete 124-128 semester hours consistent with the curriculum guide for the program selected. Business Education and Administrative Services majors must earn a minimum grade of "C" in English 100, 101, Mathematics 111, 112, and B.E. 360.

DEPARTMENTAL REQUIREMENTS

Majors in the Department of Business Education and Administrative Services must earn a minimum grade of "C" in 8 (24 hours) of the 10 (30 hours) courses identified as major program requirements in the applicable University Bulletin for the selected area of study.

The curriculum meets the certification requirements for the State of North Carolina. The Business Education and Administrative Services Department will be guided by the State's certification procedure in force.¹ Each student is required to pass Core Batteries I, II, III, and the Specialty Area Test of the National Teachers Examination for initial certification. Check with your advisor or Chairperson for details.

To be eligible for student teaching in both comprehensive business education and basic business education, the student must have met the following requirements:

1. Senior Standing
2. Completed three-fourths of the number of hours required in basic business and economic courses.
3. Completed three-fourths of the number of hours required in his/her subject matter major.
4. Attained an average of 2.00 or better on all work undertaken in the University, on all professional education courses undertaken, and on all courses undertaken in the subject matter major.

ACCREDITATION

Business Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education and approved by the State Department of Public Instruction.

CAREER OPPORTUNITIES

Depending on the major selected, graduates of the Department of Business Education and Administrative Services are qualified for career opportunities as business teachers in middle and secondary grades, administrative assistants, and office administrators, and other managerial personnel in business, industry, and the government.

¹ Business Teacher Education majors must meet the requirements for admission to the Teacher Education program.

CURRICULUM GUIDE FOR BASIC BUSINESS EDUCATION

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 111	4
Natural Science elective ²	3-4
History 100	3
Business Administration 220	3
	16-17

<i>Second Semester</i>	Credit
English 101	3
Mathematics 112	4
Natural Science elective ²	3-4
Humanities 200	3
Business Education 302 ³	2
Physical Education Elective	2
	17-18

Sophomore Year

<i>First Semester</i>	Credit
Economics 300	3
Accounting 221	3
Humanities 201	3
Speech 250	2
Education 300	2
Business Education 334	2
Business Administration 341	3
	18

<i>Second Semester</i>	Credit
Business Education 360	3
Accounting 222	3
Psychology 320	3
Economics 301	3
Education 301	2
Business Education 342	3
	17

Junior Year

<i>First Semester</i>	Credit
Business Administration 422	3
Accounting 446	3
Economics 305	3
Business Education 379	3
Education 400	3
	15

<i>Second Semester</i>	Credit
Business Administration 453	3
Business Administration 481	3
Business Education 670	1
Business Administration 430	3
Business Education 681	3
Industrial Education 663	3
	16

² Recommended courses: Biological Science, Physical Science, Astronomy, Survey of Physics, Plant Science 201.

Senior Year

<i>First Semester</i>	Credit
Business Education 671	1
Business Administration 461	3
Business Education 575	3
Business Administration 520	3
Electives	3
Business Education 682	3
	<u>16</u>

<i>Second Semester</i>	Credit
Education 637	3
Education 500	3
Education 560	6
	<u>12</u>

³ Students who do not pass the Proficiency Test for Beginning Typewriting should enroll in BE 301, the prerequisite for BE 302.

Major Program Requirements:	Semester Hours
BE 360 Business Communication	3
BE 681 Coordinating Techniques/Job Analysis	3
BE 575 Methods of Teaching the Business Subjects	3
BE 682 Administration and Supervision in Business Education	3
AC 446 Managerial Accounting	3
BA 341 Introduction to Data Processing	3
BA 422 Introduction to Management	3
BA 430 Marketing	3
BA 461 Legal Environment of Business	3
BA 453 Business Finance	3
	<u>30</u>

CURRICULUM GUIDE FOR COMPREHENSIVE BUSINESS EDUCATION

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 111	4
Natural Science elective ²	3-4
History 100	3
Business Administration 220	3
	<u>16-17</u>

<i>Second Semester</i>	Credit
English 101	3
Mathematics 112	4
Natural Science elective ²	3-4
Humanities 200	3
Business Education 302 ³	2
Physical Education Electives	2
	<u>17-18</u>

Sophomore Year

<i>First Semester</i>	Credit
Economics 300	3
Accounting 221	3
Speech 250	2
Business Education 334	2
Education 300	2
Humanities 201	3
Business Education 360	3
	<u>18</u>

<i>Second Semester</i>	Credit
Psychology 320	3
Accounting 222	3
Business Administration 341	3
Business Education 332 ⁴	3
Education 301	2
Economics 301	3
	<u>17</u>

²Recommended courses: Biological Science, Physical Science, Astronomy, Survey of Physics, Plant Science 201.

³ Students who do not pass the Proficiency Test for Beginning Typewriting should enroll in BE 301, the prerequisite for BE 302.

⁴ Students who do not pass the Proficiency Test for Shorthand I should enroll in BE 331, the prerequisite for BE 332.

⁵ Recommended courses: English 102; Speech 216; other courses in Physical Education.

Junior Year

<i>First Semester</i>	Credit
Business Administration 422	3
Economics 305	3
Business Education 379	3
Business Education 342	3
Education 400	3
Electives ⁵	1-2
	<u>16-17</u>

<i>Second Semester</i>	Credit
Business Administration 453	3
Business Administration 481	3
Business Administration 430	3
Business Education 670	1
Industrial Education 663	3
Business Education 681	3
	<u>16</u>

Senior Year

<i>First Semester</i>	Credit
Business Education 671	1
Business Administration 461	3
Business Education 682	3
Business Education 575	3
Business Administration 520	3
Business Education 573	3
	<u>16</u>

<i>Second Semester</i>	Credit
Education 637	3
Education 500	3
Education 560	6
	<u>12</u>

Major Program Requirements:	Semester Hours
BE 379 Personal Finance	3
BE 332 Shorthand II	3
BE 360 Business Communication	3
BE 342 Business Programming	3
BE 573 Executory Administration	3
BE 575 Methods of Teaching the Business Subjects	3
BA 341 Introduction to Data Processing	3
BA 430 Marketing	3
BE 681 Coordinating Techniques/Job Analysis	3
BE 682 Administration and Supervision in Business Education	3
	<u>30</u>

CURRICULUM GUIDE FOR ADMINISTRATIVE SERVICES

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 111	4
Natural Science Electives ¹	3-4
Business Administration 220	3
Social Science Electives ³	3
	<u>16-17</u>

<i>Second Semester</i>	Credit
English 101	3
Mathematics 112	4
Natural Science Electives ¹	3-4
Business Education 302 ²	2
Social Science Electives ³	3
Physical Education Elective	2
	<u>17-18</u>

Sophomore Year

<i>First Semester</i>	Credit
Humanities 200	3
Psychology 320	3
Accounting 221	3
Business Education 334	2
Economics 300	3
Business Administration 341	3
	<u>17</u>

<i>Second Semester</i>	Credit
Humanities 201	3
Business Administration 342	3
Accounting 222	3
Speech 250	2
Business Education 332 ⁴	3
Economics 301	3
	<u>17</u>

Junior Year

<i>First Semester</i>	Credit
Business Administration 453	3
Economics 305	3
Business Education 360	3
Business Administration 422	3
Electives	3
	15

<i>Second Semester</i>	Credit
Business Administration 461	3
Economics 310	3
Business Administration 420	3
Business Administration 430	3
Economics 415	3
	15

Senior Year

<i>First Semester</i>	Credit
Business Administration 481	3
Business Education 573	3
Business Education 670	1
Business Education 568	3
Electives	6
	16

<i>Second Semester</i>	Credit
Business Administration 520	3
Business Administration 522	3
Electives (Non-business)	6
	12

¹ Recommended Courses: Biological Science 100; Physical Science 100; Introduction to Astronomy 101; Survey of Physics 201.

² Students who do not pass the Proficiency Test for Beginning Typewriting should enroll in BE 301, the prerequisite for BE 302.

³ Recommended Courses: History 100, 101, 215, 216, 310, 311; Geography 200 and 322; Political Science 200; Sociology 100 and 200.

⁴ Students who do not pass the Proficiency Test for Shorthand I should enroll in BE 331, the prerequisite for BE 332.

Major Program Requirements:	Semester Hours
BE 360 Business Communication	3
BE 342 Business Programming	3
BE 568 Office Automation	3
BE 573 Executory Administration	3
BA 341 Introduction to Data Processing	3
BA 422 Introduction to Management	3
BA 453 Business Finance	3
BA 522 Personnel Management	3
AC 222 Principles of Accounting	3
EC 305 Elementary Statistics	3
	30

DIRECTORY OF FACULTY AND COURSES

Business Education and Administrative Services Faculty

Sylvia Bembry, B.S., Albany State College; M.S., Indiana University; Ph.D., University of Iowa; Assistant Professor

Dorothy Cameron, B.S., North Carolina Agricultural and Technical State University; M.S., Ed.D., University of North Carolina at Greensboro; Assistant Professor

Rubye Davis, B.S., North Carolina Agricultural and Technical State University; M.Ed., University of North Carolina at Greensboro; Assistant Professor

Katie Dorsett, B.S., Alcorn Agricultural and Mechanical College; M.S., Indiana University; Ed.D., University of North Carolina at Greensboro; Associate Professor

Meadia Gibbs, B.S., Allen University; M.S., Ph.D., University of Wisconsin at Madison; Associate Professor and Chairperson

Jack Hulbert, B.S., Paterson State College; M.B.A., Ph.D., Indiana University; Professor

Courses

- 301 Beginning Typewriting
- 302 Intermediate Typewriting
- 331 Gregg Shorthand I
- 332 Gregg Shorthand II
- 334 Business Machines
- 342 Business Programming
- 360 Business Communication
- 379 Personal Finance
- 447 Transcription
- 568 Office Automation
- 573 Executory Administration
- 575 Methods of Teaching Business Subjects (Comprehensive & Basic)
- 664 Occupational Exploration for Middle Grades
- 665 Occupational Exploration in the Middle Grades-Business Education and Office Occupations
- 670-672 Directed Work Experience
- 681 Coordinating Techniques and Job Analysis in Cooperative Occupational Education Programs
- 682 Administration and Supervision in Business Education

Course descriptions are available upon request from the Dean of the School.

Department of Economics

Basil Coley, Chairperson

OBJECTIVES

The objectives of the Department of Economics are to develop the student's ability to understand and use economic principles and concepts to identify, analyze, and solve problems associated with the economy, and to develop potential for leadership positions in business, education, and the government.

DEGREES OFFERED

Economics—B.S.
Transportation—B.S.

GENERAL PROGRAM REQUIREMENTS

Two program options are available to majors in Economics: (1) business oriented and (2) general economics. Economics and Transportation majors are required to complete a minimum of 124 hours for a baccalaureate degree consistent with the curriculum guide for the program selected. Also, a minimum grade of "C" must be earned in English 100, English 101, Business Communication 360, Mathematics 111, and Mathematics 112.

DEPARTMENTAL REQUIREMENTS

Students majoring in programs in Economics must earn a minimum grade of "C" in all Economics courses listed as Major Program Requirements. Economics 300 and 301 are prerequisite to all courses in Economics.

CAREER OPPORTUNITIES

The Economics major is prepared for careers in government services, business, and industry and is provided with the educational background for graduate study and the study of law. The Transportation major is prepared for careers in carrier and physical distribution management with rail-

roads, motor lines, water carriers, airlines, other industries and the government.

CURRICULUM GUIDE FOR THE MAJOR IN ECONOMICS (BUSINESS)

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 111	4
History 100	3
Biological Science	4
Physical Education	1
Health Education 200	2
	<u>17</u>

<i>Second Semester</i>	Credit
English 101	3
Mathematics 112	4
History 101	3
Physical Science	4
Business Administration 220	3
	<u>17</u>

Sophomore Year

<i>First Semester</i>	Credit
Accounting 221	3
Physical Education	1
Humanities Elective	3
Psychology 320	3
Economics 300	3
Economics 305	3
	<u>16</u>

<i>Second Semester</i>	Credit
Accounting 222	3
Speech 250	2
Humanities Elective	3
Business Administration 341	3
Economics 301	3
Economics 310	3
	<u>17</u>

Junior Year

<i>First Semester</i>	Credit
Business Administration 430	3
Foreign Language	3
Business Administration 422	3
Economics 410	3
Economics 412	3
	<u>15</u>

<i>Second Semester</i>	Credit
Business Administration 453	3
Foreign Language	3
Economics 415	3
Economics 420	3
Business Education 360	3
	<u>15</u>

Senior Year

<i>First Semester</i>	Credit
Business Administration 481	3
Business Administration 461	3
Economic Elective	3
Electives (non-business and non-economics)	6
	<u>15</u>

<i>Second Semester</i>	Credit
Business Administration 520	3
Economics 525	3
Economics Elective	3
Electives (non-business and non-economics)	6
	<u>15</u>

Major Program Requirements:	Semester Hours
EC 300 Principles of Economics (Micro)	3
EC 301 Principles of Economics (Macro)	3
EC 305 Elementary Statistics	3
EC 310 Advanced Statistics	3
EC 410 Intermediate Economic Theory	3
EC 412 Quantitative Analysis	3
EC 415 Money and Banking	3
EC 420 National Income Analysis	3
EC 525 Economics Seminar	3
BA 341 Introduction to Data Processing	3
	<u>30</u>

CURRICULUM GUIDE FOR THE MAJOR IN ECONOMICS (GENERAL)

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 111	4
History 100	3
Biological Science	4
Physical Education	1
Health Education	2
	<u>17</u>

<i>Second Semester</i>	Credit
English 101	3
Mathematics 112	4
History 101	3
Physical Science	4
Business Administration 220	3
	<u>17</u>

Sophomore Year

<i>First Semester</i>	Credit
Economics 305	3
Humanities 100	3
Economics 300	3
Psychology 320	3
Elective	3
	<u>15</u>

<i>Second Semester</i>	Credit
Economics 310	3
Physical Education	1
Speech 250	2
Humanities 201	3
Economics 301	3
Social Science Elective	3
	<u>15</u>

Junior Year

<i>First Semester</i>	Credit
Foreign Language	3
Economics 410	3
Economics 412	3
Economics Electives	3
Social Science or Math Electives	3
	<u>15</u>

<i>Second Semester</i>	Credit
Foreign Language	3
Business Administration 341 or Mathematics 240	3
Economics 420	3
Economics Electives	3
Economics 415	3
	<u>15</u>

Senior Year

<i>First Semester</i>	Credit
Electives ¹	15
	<u>15</u>

<i>Second Semester</i>	Credit
Economics 525	3
Electives ¹	12
	<u>15</u>

¹ Fifteen semester hours should be taken from the following disciplines: Computer Science, Mathematics, Business Administration, Accounting, Political Science, Agricultural Economics, Sociology, Anthropology, English or Education in consultation with adviser.

Major Program Requirements:	Semester Hours
EC 300 Principles of Economics (Micro)	3
EC 301 Principles of Economics (Macro)	3
EC 305 Elementary Statistics	3
EC 310 Advanced Statistics	3
EC 410 Intermediate Economic Theory	3
EC 412 Quantitative Analysis	3
EC 415 Money and Banking	3
EC 420 National Income Analysis	3
EC 525 Economics Seminar	3
BA 341 Introduction to Data Processing or	
MATH 240 Introduction to the Programming of Digital Computers	3
	<u>30</u>

MANPOWER CONCENTRATION FOR ECONOMICS MAJORS

The Department of Economics offers a manpower concentration which provides an understanding of manpower planning, manpower program evaluation, and manpower administration. In this concentration, students gain expertise in coping with problems of employment and additional skills for careers in state, city and county government, federal agencies, private industry, as well as community manpower agencies.

Students interested in the manpower concentration should complete the following core courses: Economics 305 or Psychology 322; Economics 602, 603; Business Administration 522; Sociology 302, 501 or 601; and Psychology 445. Two electives (6 hours) must be selected in consultation with the appropriate adviser.

CURRICULUM FOR THE MAJOR IN TRANSPORTATION

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 111	4
Biological Science	4
Social Science Elective	3
Health Education 200 or Physical Education	2
	<u>16</u>

<i>Second Semester</i>	Credit
English 101	3
Mathematics 112	4
Physical Science	4
Social Science Elective	3
Business Administration 220	3
	<u>17</u>

Sophomore Year

<i>First Semester</i>	Credit
Economics 300	3
Humanities Electives	3
General Psychology 320	3
Speech 250	2
Accounting 221	3
Economics 305	3
	<u>17</u>

<i>Second Semester</i>	Credit
Economics 301	3
Humanities Electives	3
Accounting 222	3
Economics 310	3
Transportation 360	3
	<u>15</u>

Junior Year

<i>First Semester</i>	Credit
Business Administration 422	3
Business Administration 481	3
Business Administration 341	3
Business Administration 430	3
Economics 425	3
	<u>15</u>

<i>Second Semester</i>	Credit
Business Administration 461	3
Business Administration 453	3
Economics 415	3
Business Education 360	3
Transportation 450	3
	<u>15</u>

Senior Year

<i>First Semester</i>	Credit
Transportation 650	3
Economics 626	3
Electives (non-business and non-economics)	3
Transportation Electives	6
	<u>15</u>

<i>Second Semester</i>	Credit
Business Administration 520	3
Electives (non-business and non-economics)	6
Transportation Electives	6
	<u>15</u>

Major Program Requirements:	Semester Hours
TRAN 360 Introduction to Transportation	3
TRAN 450 Carrier Management	3
TRAN 650 Transportation Law	3
EC 310 Advanced Statistics	3
EC 425 Economics of Transportation	3
EC 626 Physical Distribution	3
Four courses from TRAN 460, 660, BA 470, BA 610, EC 410, EC 501, EC 599	12
	<u>30</u>

TRANSPORTATION MINOR

The Department of Economics administers a minor in Transportation which provides an understanding of urban and rural transportation planning with a special emphasis on public transport. In this minor, students are prepared for careers in transportation agencies of federal, state, county and city governments or in related private industry. Any major within the University may complete the requirements of this minor.

Students interested in the transportation minor must successfully complete 18 semester hours from the following courses: Business Administration 470, Economics 425; Twelve (12) hours of electives from Political Science 448; Mechanical Engineering 461 and 462; Architectural Engineering 566 and 567; Electrical Engineering 660; Business Administration 610.

DIRECTORY OF FACULTY AND COURSES

Economics

Abdussalam Addus, B.A., Addis Ababa University; M.S., University of Wisconsin; Ph.D., Pennsylvania State University; Assistant Professor
 Julian Benjamin, B.S., New York University; M.S., Ph.D., State University of New York at Buffalo; Associate Professor
 David Chen, B.S., National Taiwan University; M.S., New Mexico State University; Ph.D., University of Wisconsin; Associate Professor
 Basil Coley, B.S., A&T College; M.S., Pennsylvania State University; Ph.D., University of Illinois; Chairperson and Professor

Dong Jeong, B.A., Teachers College, Kyung-Pook National University, Korea; M.A., Kyung-Pook National University; M.A., University of Hawaii; Ph.D., Wayne State University; Associate Professor

Anwar Khan, B.A., M.A., University of the Punjab; M.A., Ph.D., University of Wisconsin; Professor

Lawrence Morse, B.A., Oberlin College; Ph.D., University of Minnesota; Associate Professor

Kofi Obeng, B.Sc., University of Science & Technology (Kumasi, Ghana); A.M., Ph.D., University of Pennsylvania; Assistant Professor

Robert Rivers, A.B., Clark University; M.S., Ph.D., University of Illinois; UPS Professor of Transportation

Michael Simmons, B.S., Arkansas AM&N; M.A., University of Wisconsin; Ph.D., Washington State University; Assistant Professor

Courses in Economics and Transportation

300 Principles of Economics, Micro
 301 Principles of Economics Macro
 305 Elementary Statistics
 310 Advanced Statistics
 401 Public Finance
 405 History of Economic Thought
 410 Intermediate Micro Economic Theory

412 Quantitative Analysis
 415 Money and Banking
 420 National Income Analysis
 425 Economics of Transportation
 430 Computer Analysis of Business and Economic Data
 501 Labor Problems
 505 International Economic Relations
 510 Business Cycles
 512 Introduction to Econometrics
 515 Comparative Economic Systems
 520 Economic Development
 525 Economics Seminar
 599 Independent Study
 601 Economic Understanding
 602 Manpower Problems and Prospects
 603 Manpower Planning
 604 Economics Evaluation Methods
 610 Consumer Economics
 615 Economic, Political and Social Aspects of the Black Experience
 626 Physical Distribution
 690 Special Topics in Economics
 701 Labor and Industrial Relations
 705 Government Economic Problems
 710 Economic Development and Resource Use
 720 Development of Economic Systems
 360 Introduction to Transportation
 450 Carrier Management
 460 Traffic Management
 650 Transportation Law
 660 National Transportation Policy

Course descriptions are available upon request from the Dean of the School.

TRANSPORTATION INSTITUTE

The Transportation Institute draws faculty, staff members and students from a number of different departments to create an interdisciplinary unit that conducts research, public service and training programs in the field of transportation. It also serves as a resource for planners, social scientists, public officials, and community groups in helping them solve transportation problems.

The Research Program covers a wide range of areas, from investigating transportation needs of the poor to analyzing transportation financing. The Institute has achieved a national reputation for its funded research in small city and rural transportation.

Students play an important role in each of the research projects. Under the guidance of the faculty, student research assistants help in developing and conducting funded projects awarded to the Transportation Institute. The Institute makes substantial financial awards to students who are awarded research assistantships.

The Institute is a regional center which offers seminars, workshops, and short courses designed to provide instruction in current techniques and transportation concepts. These programs are designed for individuals outside the University who have an interest in transportation. In addition they may use the extensive resource collection in transportation which is housed in the Transportation Institute facilities, located in Merrick Hall.



SCHOOL OF EDUCATION

S. Joseph Shaw, Dean
Dorothy Prince Barnett, Assistant
Dean and Director of Teacher
Education

The School of Education provides curricula for students to prepare for teaching careers in the elementary (K-6) and secondary schools of the state and for other professional careers in industry and government. The programs of study are planned to allow the students to attain competence in both specialized and general areas of Education and Industrial Technology.

The School of Education includes the following departments: Curriculum and Instruction; Educational Leadership and Policy; Human Development and Services; Health, Physical Education and Recreation. The Division of Industrial Education and Technology is comprised of the following departments: Industrial Education; Industrial Technology; and Safety and Driver Education. This Division is an integral part of the School of Education.

All professional teacher education programs are administered and supervised by the School of Education. The Schools of Education and Graduate Studies cooperate with the supervision of graduate teacher education programs, especially as they relate to teacher certification. Moreover, the School of Education serves as the central agency for administering all teacher education programs for undergraduates and the supervision of certification for all education majors at all levels.

The School of Education offers programs leading to the Bachelor of Science degree in Health and Physical Education, Industrial Arts Education, Industrial Technology, Safety and Driver Education, Vocational Industrial Education, Early Childhood Education, and Occupational Safety and Health.

In addition to the aforementioned programs, upon the satisfactory completion of an undergraduate program offered by other schools and departments in cooperation with the

School of Education, the student is eligible to receive the degree of Bachelor of Science in one of the following areas: Agricultural Education; Art Education; Biology Education; Business Education; Chemistry Education; English Education; French Education; History Education; Home Economics Education; Mathematics Education; Music Education; Physics Education; Social Studies Education; and Speech and Theatre Education. Graduate courses and majors are listed in the Graduate Bulletin.

General School Goals

1. To offer programs for students which promote the development of needed occupational and professional skills, including special instruction in career education.
2. To provide opportunities for program enrichment for faculty, students and the community.
3. To continue to develop and improve ways and means for the improvement of all education programs and services, including student academic advisement.
4. To continually encourage faculty and student participation in curriculum reform in each academic department.
5. To continually maintain full accreditation of all programs on the state, regional, and national levels which are administered by the School of Education.
6. To stabilize the number of academic degree programs which will concurrently stabilize the number of degrees awarded annually in efforts to meet the demands of the job market in all fields.
7. To continue to improve the quality of graduate and undergraduate instruction as measured by grade point averages and other measurable performance competencies.
8. To continue to encourage and to promote faculty involvement and active participation in research and community affairs.
9. To continue to develop and improve ways and means to evaluate program effectiveness in the School of Education.
10. To upgrade physical facilities and equipment needed in the School of Education to meet optimal operational levels.

THE TEACHER EDUCATION PROGRAM

The Teacher Education Program was accredited initially in 1976 by the National Council for the Accreditation of Teacher Education. The Industrial Technology Program, accredited initially in 1977 by the National Association of Industrial Technology, is a non-teaching program, that adds support services to teacher education majors. The Media Program was accredited initially in 1976 by the Association of Educational Communications and Technology. The accreditation of Teacher Education and Media Education Programs were reaffirmed in 1981 until September 1, 1988.

In 1978, the North Carolina State Board of Education and the Board of Governors of the University of North Carolina, adopted a "Quality Assurance Program" to chart a new course toward "a systematic, continuous and extended approach to quality assurance" in teacher education and Certification in North Carolina. The program is based on demonstrated performance as a basis for certification, improved teacher education program approval procedures and shared responsibility among colleges, universities and local school systems for the preparation and early performance of competent professionals to serve children in schools across the state.

In an effort to begin the implementation of the Quality Assurance Program, a Resolution was adopted by the State Board of Education on March 2, 1983 and endorsed by the Board of Governors on March 11, 1983. The Teacher Education Program is implementing the mandates of the Quality assurance Program.

The program of teacher education seeks to improve the quality of education available to the youth of North Carolina through improved preparation of teachers and other school personnel including administrators, guidance counselors and instructional supervisors. To that end, it offers both undergraduate and graduate programs of professional study which represent a continuum with sequential general goals. The program seeks, therefore, to realize these goals:

1. to prepare persons to take their places as competent members of the profession of education; and
2. to provide opportunities for students who wish to pursue graduate studies in education and advanced study for school personnel already established in education.

In order to carry out general goal "number one" of the Teacher Education Program as listed above, these objectives have been established:

1. Plan experiences for students in teacher education which will include the development of persons as individuals as well as specialists in a chosen academic area.
2. Plan learning environments conducive to appropriate stimulation for developing needed competencies in the following areas:
 - a. personal development
 - b. social development
 - c. professional development
 - d. citizenship maturity
3. Provide the highest level of instruction by way of well-qualified teaching and research personnel who can provide integrated experiences for teacher education students, which will make it possible for them to gain personal, social and academic competencies in the practice of the education profession.
4. Design an organizational structure to delineate and describe those competencies which will assure for teacher education students a quality experience specifically related to the vocational specialty that they will be expected to practice.
5. Plan all program development, evaluation, and supervision so that experiences gained are clearly oriented to the preservice dimension of the Teacher Education Program.

As the teacher education unit observes general goal "number two," the following objectives have been established:

1. Plan programs for graduate level students which will involve competencies already developed and which are being practiced, and infuse additional high level experiences that will give

definite meaning to the competencies being sought. A sequential approach in curriculum development is observed.

2. Provide a learning environment which will stimulate in advanced students the desire to delineate and articulate those competencies in their respective specialties that will insure for them a high level of performance in the practice of their chosen vocation.
3. Emphasize those competencies which are necessary for all advanced students in education. Such competencies allow advanced students to have extensive and intensive experiences in research.
4. Plan and assess measurable competencies of advanced students which will permit these students to attain levels of leadership commensurate with graduate level expectations.

The Offices of Registration and Records and Director of Teacher Education are the central agencies vested with the authority and responsibility to recommend to the State Department of Public Instruction, students who are applying for certification in the following fields:

1. Agricultural Education
2. Art Education
3. Biology Education
4. Business Education
5. Chemistry Education
6. Early Childhood Education
7. English Education
8. French Education
9. Health and Physical Education
10. History Education
11. Home Economics Education
12. Industrial Arts Education
13. Mathematics Education
14. Music Education
15. Physics Education
16. Safety and Driver Education
17. School Social Worker
18. Social Studies Education
19. Speech and Theatre Education
20. Vocational Industrial Education

In recognition of this function, the approval or endorsement of the department providing courses in the subject matter areas in which the candidate is to be certified must be secured prior to the approval or endorsement of the Director. The University reserves the right to refuse to

recommend any applicants for certificates when they are deficient in mental or physical health, scholarship, character, or other qualifications deemed necessary for success in the profession of education.

The program in teacher education is divided into three separate but inter-related phases: (1) general education; (2) subject-matter specialization; and (3) professional education.

General Education

The general education phase of the Teacher Education Program functions to provide experience and learning which meet the fundamental needs of all teachers as persons, both in the role of teacher and citizen in a democracy. General education provides for the student the understanding, the knowledge, the appreciation, and the sensitivity attainable through the study of a broad range of materials and concepts ranging across the humanities, the arts, the social sciences, the natural sciences and mathematics. It provides a broad understanding of the cultural heritage and of the physical and social environments. General Education is also an essential foundation for the teaching specialty and professional education.

Subject-Matter Specialization

Experiences of students in the subject-matter specialization area are designed to develop a high level of subject competence in those who later will seek certification in their respective specialties. Subject-matter specialization provides opportunities for the student to understand the theoretical basis upon which subject content is developed and organized. It also provides the student an opportunity to accumulate and to understand a vast body of facts which comprises one's selected discipline. The function of knowledge in the development of mature scholarship is emphasized in this segment of the prospective teacher's experiences also.

Professional Education

The professional education phase of the Teacher Education Program is designed to induct the prospective teacher into the profession of education. During this segment of the student's experience he develops definable competence in the following:

1. Understanding the school as a social system with structures, functions, and special goals.
2. Understanding the learner (student) as a dynamic and unique personality capable of wide variation in behavioral adjustment.
3. Understanding the functional nature of human learning, how to diagnose and assess it, and how it takes place in individual and group settings, especially in organized school environments.
4. Understanding what resources facilitate learning and how these resources may be effectively used in a learning-teaching environment.
5. Understanding the processes at work between the school and the wider society which have influenced the learning-teaching situation, historically.
6. Understanding effective techniques and strategies for enhancing learning among students who have a wide range of needs, abilities, and interests.
7. Understanding the education profession as a medium through which continuous individual development of the teacher is paramount in order to maintain accountability to himself, to the students he will teach, to the profession proper, and to society in general.

TEACHER EDUCATION ADMISSION AND RETENTION STANDARDS, INCLUDING CERTIFICATION PROCEDURES

Each current and prospective teacher education student will be informed, on an individual basis, of the probability that he or she might successfully complete the requirements for initial certification as a teacher in North Carolina. This information will be part of the regular advising and counseling program of the college or university and will include a discussion of high school rank, SAT score, grade point average and other predictive measures.

Admission

The Teacher Education Council makes all policies governing the entire Teacher Education Program; therefore, admission, retention and exit procedures are reviewed by the

Council. To be admitted to the Teacher Education Program, a student should inform the chairperson of the department in which he/she plans to major, of his/her interest during the sophomore year so that the chairperson can counsel the student accordingly. The student must then file an application form with the Director of Teacher Education after receiving approval from the departmental chairperson. At this time, the student's complete profile will be examined by the Teacher Education Director. The student must have a minimum cumulative grade point average of 2.00 and a major field average of 2.00 before he/she can be admitted to the Program.

Prior to his/her fourth semester in residence each applicant must satisfy the following requirements:

1. Successfully complete Mathematics 101 and 102 or 111 with a grade of "C" or better.
2. Successfully complete English 100, 101, and Speech 250 with a grade of "C" or better in each course.
3. Take the necessary tests required by the Teacher Education Program.
4. Show evidence of good health. The health of a prospective teacher should not restrict his/her ability as a teacher; therefore, a statement from a physician is necessary. The details regarding what constitutes health not good enough for a teacher will be determined in consultation with the Student Health Director.
5. Demonstrate his/her ability to use the English language effectively.
6. Successfully complete Core Batteries I and II prior to the completion of his/her junior year.

* Core Battery I is Test of Communication Skills, which contains listening comprehension, reading comprehension, and writing questions and an essay question in the writing section. Core Battery II is a Test of General Knowledge, which includes questions about literature and fine arts, mathematics, science and social studies.

Retention

To remain in the Teacher Education Program, the student must maintain an academic average of 2.00 in the area in which he/she seeks certification and in professional education. In addition, a student must repeat any

required major field course or professional education course, except General Psychology or Introduction to Education, when he/she earns a grade of "D" or lower. The repetition will not be considered in the hours required for graduation but the hours and the grade for the repetition will be included in the determination of the overall grade point average.

Should a student's academic average fall below 2.00 in either the area he/she seeks certification or the area of professional education, he/she will be placed on probation or dropped from the Teacher Education Program, depending on the level to which his/her academic marks fall. This process should be carefully monitored by the major department of the student.

Once a student has been dropped from the Teacher Education Program because of poor scholarship, he/she may reapply with the Director of Teacher Education providing his/her academic average has returned to 2.00 or above in the area he/she seeks certification and/or in the area of professional education.

Readmission to Teacher Education Program

Once a student has been dropped from the Teacher Education Program for any reason, the following steps must be taken before a student will be readmitted to the Teacher Education Program:

1. The student must file a formal application for readmittance to the Teacher Education Program with the Director of Teacher Education.
2. The Director of Teacher Education must bring the application of the student along with the student's complete profile before the Teacher Education Council for action.
3. The Director of Teacher Education will formally notify, in writing, the student, Department Chairperson, Dean of the School involved and the Chief Officer of Academic Affairs of the action of the Teacher Education Council with reference to the student's application for readmission to the Teacher Education Program.

Transfers to the Teacher Education Program

Transfer policies refer to the student who starts his/her college program in an academic area (such as mathematics or chemistry) and decides to become a teacher late in his/her college career. The following requirements are necessary for admittance to the Teacher Education Program under these conditions:

1. The student must have satisfied the general education requirements.
2. The student must have a 2.00 grade point average in his/her academic work and the general education program.
3. The student must apply formally to be admitted to the Teacher Education Program. Application will be made to the Chairperson of the Department in which he/she plans to major.
4. The student must meet the same criteria as are recommended for other students in suggested

policies governing admission to the Teacher Education Program.

5. The Chairperson of the Academic Department has the responsibility of enrolling the student in the Teacher Education Program after the student has met all requirements.

Certification

After completing the teacher education sequence of experiences, the student must apply for state certification by requesting a certification application form from the Office of the Director of Teacher Education. After completing the application and obtaining the appropriate signatures, the student must return the application form to the Office of the Director of Teacher Education, which will send the completed application form to the Office of Registration and Records. This office will attach a copy of the student's official transcript to the application form and forward it to the State Department of Public Instruction in Raleigh, North Carolina.

Each candidate for initial certification must provide his/her SAT score with application for initial certification. Scores will be used for research and analysis in setting passing scores on the NTE and will not be used as a basis for initial certification of candidates.

The student is required to take the National Teacher Examinations. The student must score at a level that is satisfactory to the State Board of Education. Modifications of certification will be made as the occasion arises.

** Core Battery III is Test of Professional Knowledge, which focuses on the processes and the context of teaching.*

Irregular Certification

Occasionally students will need to be certified under the provision of "irregular certification." This provision is made primarily for students who are classified in the following categories:



1. One who completes an academic program of studies other than teacher education.
2. One who seeks initial certification in North Carolina from another state provided he/she does not qualify for certification under the "reciprocity" provision between the state of North Carolina and other selected states. However if a student meets the reciprocity provision, he/she makes direct contact with the North Carolina State Department of Public Instruction in Raleigh, relative to his/her certification problem.

Anyone seeking a recommendation for certification under the "irregular certification" provision must contact the Office of the Director of Teacher Education for appropriate directions.

A person with a baccalaureate degree from an accredited institution of higher education must complete NTE Core Batteries I, II, and III upon completion of formal studies for initial certification.

Department of Educational Leadership and Policy

Henry T. Cameron,
Chairperson

OBJECTIVES

The objectives of the Department of Educational Leadership and Policy are to offer graduate level programs of preparation in Administration, Adult Education and Supervision. The Master's degree programs in Administration and Supervision are teacher education programs and they are consistent with the state adopted competency-based guidelines. These programs of study lead to North Carolina Certification at the Administrator I and Curriculum Instructional-Specialist I levels. The Master of Science in the Adult

Education program is not considered as a teacher education program but it is developed and implemented on competency-based guidelines. The Department also offers programs of certification in Administration and Supervision for those students who already hold a Master's degree in education with certification in other professional areas. The graduate programs in the department are designed to prepare students for positions in public school administration; adult education, supervision of instruction in public schools and teaching or administration primarily at the Community College/Technical Institute levels.

DEGREES OFFERED

Education—Administration—M.S.
Education—Adult Education—M.S.
Education—Supervision—M.S.
Certification in Administration—
Certificate
Certification in Supervision
(Curriculum Instructional-Specialist)

GENERAL PROGRAM REQUIREMENTS

Requirements for admission to the degree programs in the Department of Educational Leadership and Policy are as follows:

1. Educational Administration and Supervision
 - a. Baccalaureate degree from an accredited undergraduate institution
 - b. Class "A" Certificate in area of concentration.
 - c. Satisfactory completion of all graduate school requirements for admission to candidacy for a degree program
2. Adult Education
The admission of students to the graduate program in Adult Education is based upon the general admission requirements of the Graduate School.
3. Under policies of the Graduate School, candidacy for a degree requires the following:
 - a. The Qualifying Essay
 - b. The Graduate Record Examination (Aptitude and Advanced Test in Education)

DEPARTMENTAL REQUIREMENTS

The major in both Administration and Supervision (Curriculum-Instructional Specialist) must complete thirty-one semester hours of University work for the graduate degree and must maintain an overall grade point average of 3.0.

Students who already hold a Master's degree and seeks Certification only must meet all program requirements for Certification, including a minimum of twelve semester hours in the department.

Before enrolling in a degree or certification program, each student is required to meet with the departmental chairperson and to be assigned a faculty advisor who will be responsible for approval of the student's program of study. The student who holds a Master's degree and seeks Certification only must submit a transcript of his/her graduate studies to the departmental chairperson prior to, or at the time of, the initial conference.

The major in Adult Education is required to complete a minimum of 30 graduate semester hours with thesis or 33 hours without the thesis and must maintain an overall grade point average of 3.0. At least 50% of the courses counted toward the graduate degree must be of courses offered to graduate students only i.e., courses numbered 700-799. Each graduate student must satisfactorily complete an adult teaching practicum under supervision.

CAREER OPPORTUNITIES

Graduate degree and certification programs qualify the student for the principalship and/or supervisory positions at the elementary and secondary school levels. The program in postsecondary education is designed to meet the needs of administrative, supervisory and teaching personnel at the community college and technical institute levels.

Students who earn the degree in Adult Education may look forward to careers in such endeavors as Agricultural Extension, Adult Basic Education, Community College Education, Religious Education, Law Enforcement, Continuing Education, Nursing, and Community School Education.

CURRICULUM GUIDE

Administration: 31 Semester Hours Required

This program is designed for students who are interested in qualifying for State Certification as Administrator I (the principal's certification). Completion of this program does not qualify one for the graduate teaching certificate.

Students pursuing certification, but not the Master's degree are required to complete at least 12 semester hours at this University.

Education 761, Organization and Administration, is a prerequisite for all other professional courses in the specific areas of organization, administration, curriculum, instruction and supervision (items 1b and 1c in the requirements outlined below).

1. Courses
 - a. Foundations in Education—3 hours
320-726 Educational Psychology or
311-701 Philosophy of Education
 - b. Organization and Administration—6 hours selected from:
312-760 The Junior High School
312-761 Organization and Administration of Schools
312-762 The Principalship
 - c. Curriculum, Instruction and Supervision—6 hours selected from:
310-720 Curriculum Development
312-755 Supervision of Instruction
312-756 Supervision of Student Teachers
 - d. Cognate Disciplines—6 hours selected from:
Economics
Political Science
Sociology
Anthropology
 - e. Internship—Administrative Field Experience—3 hours
312-769 Problems in Educational Administration
 - f. Six (6) hours electives
2. Other Requirements
 - a. GRE (aptitude and advanced tests in education)

- b. Masters Comprehensive in Education and Administration
- c. Overall grade point average of 3.0 for all graduate courses

Curriculum Instructional Specialist:

31-34 Semester Hours Required

For the Curriculum Instructional Specialist's I (Masters degree) Certificate, the State of North Carolina requires five (5) years of teaching and/or supervisory or administrative experience within the past eight years. A student will not be recommended for the North Carolina Instructional Specialist's Certificate without the minimum five (5) years of experience specified above.

Requirements for Unconditional Admission:

1. Baccalaureate degree from an accredited institution
2. Overall grade point average of 2.6 in undergraduate studies
3. Class "A" Certificate (or qualification for such certificate)
4. Failure to meet any of these criteria may cause rejection of the applicant or may require additional undergraduate work to satisfy the requirements.

Courses in Education and Psychology—15 semester hours

1. Supervision—3 hours required
312-755 Supervision of Instruction
312-757 Problems in Supervision in the Elementary School
312-758 Problems in High School Supervision
2. Curriculum—3 hours required
310-720 Curriculum Development
310-721 Curriculum in the Elementary School
310-722 Curriculum in the Secondary School
3. The Nature of Learning and the Learning Process—3 hours required
320-635 Educational Psychology and Learning
320-726 Educational Psychology
311-727 Child Growth and Development
4. Organization and Administration—4 hours required
312-761 Organization and Administration of Schools (Prerequisite)

5. Educational Research—3 hours required
312-790 Seminar in Educational Problems

Required courses in subject matter to qualify for issuance of the graduate teacher's certificate—early childhood or intermediate, or secondary—12-18 semester hours. Electives—If 12 semester credit hours are used to satisfy the above, 3 hours may be used as electives to meet the particular needs of the student.

Other Requirements

1. Qualifying Examination
2. Graduate Record Examination
3. Master's Comprehensive Examination in Education
4. Master's Comprehensive Examination in Supervision
5. Overall grade point average of 3.0 for all graduate courses

Total number of hours required 31-34 (31 for those completing work for the supervisor's program at the Early Childhood Education level and the Intermediate Education level).

Curriculum for Major in Adult Education

Course	Description	Credit
312-650	Special Problems in Adult Education	3
312-651	Introduction to Adult Education	3
312-652	Methods in Adult Education	3
312-653	Adult Development and Learning	3
312-654	Gerontology	3
312-690	The Community College and Post Secondary Education	3
312-700	History and Philosophy of Adult/Continuing Education	3
312-701	Organization, Administration and Supervision of Adult Education Programs	3
312-702	Practicum in Teaching Adults	3
312-703	Seminar on Contemporary Issues in Adult/Continuing Education	3
312-704	Independent Study	2
312-705	Thesis Research (Optional)	3
311-641	Teaching the Culturally Disadvantaged Learner	3
311-710	Methods and Techniques of Research	3

311-790 Seminar in Educational Problems	3
311-611 Utilization of Educational Media	3
110-601 Adult Education in Occupational Education	3
235-669 Small Groups	3

ACCREDITATION

The graduate degree programs in administration and supervision are approved by the North Carolina State Department of Public Instruction, National Council for Accreditation of Teacher Education (NCATE) and the Commission on College of the Southern Association of Colleges and Schools.

COURSE OFFERINGS

312-650 Special Problems in Adult Education	
312-651 Introduction to Adult Education	
312-652 Methods in Adult Education	
312-653 Adult Development and Learning	
312-654 Gerontology	
312-690 The Community College and Post Secondary Education	
312-700 History and Philosophy of Adult/Continuing Education	
312-701 Organization, Administration and Supervision of Adult Education Programs	
312-702 Practicum in Teaching Adults	
312-703 Seminar on Contemporary Issues in Adult/Continuing Education	
312-704 Independent Study	
312-705 Thesis Research (Optional)	
312-755 Supervision of Instruction	
312-757 Problems in Supervision in the Elementary School	
312-758 Problems in High School Supervision	
312-760 The Junior High School	
312-761 Organization and Administration of Schools	
312-762 The Principalship	
312-763 Public School Administration	
312-764 Pupil Personnel Administration	
312-765 School Community Relations and Communication	
312-766 School Planning	
312-767 Public School Finance	
312-768 Principles of School Law	
312-769 Problems in Educational Administration and/or Supervision (Internship)	

312-771 Program Development: Community Education	
312-772 Program Management: Community Education	
312-776 Principles of College Teaching	
312-777 Seminar in Postsecondary Education	
312-778 Student Personnel Services	
312-779 Technical Education in Community Junior Colleges	
312-781 Internship (Community College/Technical Institute)	
312-790 Seminar in Educational Problems	

FACULTY

Charles B. Bailey, Jr., B.A., J. C. Smith University; M.S., N. C. A&T State University; Ph.D., University of Connecticut; Associate Professor	
Marion R. Blair, B.S., A&T State College; M.A., Seton Hall University; Ed.D., Indiana University; Professor	
Sampson Buie, B.S., N. C. A&T State University; M.S., The University of North Carolina at Greensboro; Ed.D., The University of North Carolina at Greensboro; Assistant Professor	
Henry T. Cameron, B.S., South Carolina State College; M.A., Fairfield University; Ed.D., University of Massachusetts; Associate Professor and Department Chairman	
Lewis C. Dowdy, A.B., Allen University; M.A., Indiana State College; Ed.D., Indiana University; Professor and Chancellor Emeritus	
Edward B. Fort, B.S., M.S., Wayne State University; Ed.D., University of California, Berkeley; Professor and Chancellor	
Benjamin W. Harris, B.S., North Carolina A&T State University; M.S., Pennsylvania State University; Ed.D., North Carolina State University; Professor	
Winfred J. House, A.B., M.A., Ed.D., Duke University; Professor	
Samuel J. Shaw, B.S., Fayetteville State College; M.A., North Carolina College; Ph.D., The University of North Carolina at Chapel Hill; Professor and Dean, School of Education	
Albert E. Smith, B.S., North Carolina A&T State University; M.S., George Williams College; Ph.D., University of Pittsburgh; Professor	

Ronald O. Smith, B.S., Florida A&M University; M.A., Northeastern Illinois University; Ph.D., Purdue University; Associate Professor
Sullivan Welborne, B.S., M.S., North Carolina A&T State University; Ed.D., The University of North Carolina at Greensboro; Assistant Professor

Department of Curriculum and Instruction

Charles L. Hayes
Chairperson

OBJECTIVES

The Department of Curriculum and Instruction provides the professional studies component for the preparation of teachers and other school personnel at the bachelor's degree and master's degree levels. The department cooperates with the various academic departments of the University for teacher education preparation. In addition, the department offers a concentration in Urban Education and a component in Career Education.

DEGREES OFFERED

Early Childhood Education—B.S.
*Early Childhood Education—M.S.
*Elementary Education (General)—M.S.
*Intermediate Education—M.S.
*Reading Education—M.S.
Reading Education—State Certification
Education, Educational Media—M.S.

** See the Bulletin of the Graduate School*

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree program in Elementary Education and Reading is based upon the general admission requirements of the University.

To be admitted to the Teacher Education Program a student must satisfy the requirements as stated in the University Bulletin under Teacher Education Admittance and Retention Standards.

PROFESSIONAL STUDIES COMPONENT

The professional studies component of the Teacher Education Program is designed to provide for the development of those competencies essential to the professional role of a teacher or special service professional.

Undergraduate. Approximately eighteen percent of the undergraduate curriculum constitutes the professional studies component. Specific teacher competencies are developed through the provision of:

1. A study of the processes and theories of human growth development, learning and teaching with field experiences.
2. A humanistic study of the problems, issues and trends in education within a historical, philosophical, sociological, economic and governmental framework.
3. Instruction and experiences in creating and using learning environments.
4. A study of the process and techniques for analyzing and evaluating the teaching learning environment.
5. Experiences for the acquisition of knowledge, attitudes, and skills for positive human and social relationship.

Graduate. At the master's degree level, approximately 20 to 40 percent of the graduate program is required for professional studies. Candidates for degrees in elementary education (Early Childhood Education, Intermediate Education) must complete a minimum of 12 semester hours and candidates in secondary education must complete a minimum of six semester hours in professional studies. Specific professional studies courses are listed in the *Graduate School Bulletin*.

URBAN EDUCATION CONCENTRATION

The Urban Education concentration is designed to prepare prospective teachers to meet the challenging

needs of urban school systems. A minimum of 15 semester hours (which includes 6-9 hours already required in the professional studies component) is required. This concentration is added to the prospective teachers' major areas.

CAREER EDUCATION

Career education is conceptualized as a structured orientation and preparation in career development as an integral part of academic experiences. It should prepare every student, from kindergarten through graduate school, to determine and prepare for a rewarding occupation. Up to 12 semester hours of courses offered by the department may be elected by students to enhance their preparation as teachers or as individuals.

EARLY CHILDHOOD EDUCATION

OBJECTIVE

The Early Childhood Education program is designed to develop professional competencies and understanding needed to teach in kindergarten through grade three.

At the graduate level, the department offers curricula leading to the Master of Science degree in Early Childhood Education. The program aims to develop prospective teachers who will realize the importance of change, and the need for continued learning. All persons who guide the development of young children need an understanding of the child, his world, and the numerous forces that influence him, as well as the basic principles on which decisions regarding instruction and practice are based.

DEPARTMENTAL REQUIREMENTS

Early Childhood Education—The major in early childhood education must complete a minimum 124 semester hours of University courses. However, if a major elects to take Mathematics 101 and 102 instead of Mathematics 111, s/he will complete 126 semester hours for graduation. Eighteen semester hours of suggested and/or free electives are included in the curriculum.

A minimum grade of "C" must be achieved in all required courses.

State Certification in Reading—Students desiring to obtain certification in reading at the undergraduate level must complete 18 specified semester hours in reading or reading related courses.

CAREER OPPORTUNITIES

In addition to preparing teachers for K-4, a degree in this field also provides for career opportunities in allied fields such as health, social service, child/family relations, communication arts and other diversified areas.

CURRICULUM GUIDE FOR THE MAJOR

Bachelor of Science

Freshman Year

<i>First Semester</i>	Credit
English 100	3
History 204	3
Education 100	1
Chemistry 100, 110	4
Health Education 200	2
Physical Education 101	1
Electives	1
	15

<i>Second Semester</i>	Credit
English 101	3
History 205	3
Mathematics 111 or	4
Mathematics 101 and Math 102	6
Political Science 200 or 210	3
Physical Education 102	1
Geography 210, 200, or 201	3
	17 or 19

Sophomore Year

<i>First Semester</i>	Credit
Psychology 320	3
Child Development 311	3
Zoology 160 or Bio. Sc. 100	4
Humanities 200	3
Education 300	2
Electives	3
	18

<i>Second Semester</i>	Credit
Speech 250	2
Zoology 461	4
Anthropology 200	3
Humanities 201	3
Education 301	2
Electives	3
	17

Junior Year

<i>First Semester</i>	Credit
Education 451	2
Music 609	3
Education 660	3
Physical Education 462	2
English 626 or	
English 220 or	
English 430	3
Electives	3
	<hr/> 16

<i>Second Semester</i>	Credit
Media Education 602	3
Art 600	3
Education 315	3
Education 436	3
Education 519	3
Electives	2
	<hr/> 17

Senior Year

<i>First Semester</i>	Credit
Education 635	3
Food and Nutrition 632	3
Electives	6
	<hr/> 12

<i>Second Semester</i>	Credit
Education 556	3
Education 557	3
Education 558	6
	<hr/> 12

ACCREDITATION

All Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education and approved by the North Carolina State Department of Public Instruction.

CAREER OPPORTUNITIES

In addition to preparing teachers for K-4, a degree in this field also provides for career opportunities in allied fields such as health, social service, child/family relations, communication arts and other diversified areas.

ELEMENTARY EDUCATION AND READING

OBJECTIVE

At the graduate level, the department offers curricula leading to the Master of Science degree Intermediate Education, Elementary Education (General) and Reading. The

program aims to develop prospective teachers who will realize the importance of change, and the need for continued learning. All persons who guide the development of young children need an understanding of the child, his world, and the numerous forces that influence him, as well as the basic principles on which decisions regarding instruction and practice are based.

The graduate program in reading prepares teachers of reading for reading education at all levels.

EDUCATIONAL MEDIA

OBJECTIVE

The Program in Educational Media provides an integrated curriculum of audio-visual education, library science, and instructional television in the preparation of Media Coordinators and allied personnel to serve learning needs and instructional programs in school media centers, junior and senior college learning resources complexes, business, industry, and health service agencies.

GENERAL PROGRAM REQUIREMENTS

Admission to the Graduate School of the University is prerequisite to admission to the Department as a Media Major.

DEPARTMENTAL REQUIREMENTS

Media Major—The major in Educational Media must complete a minimum of 30 semester hours. Eighteen to twenty-one of these hours are to be completed in Educational Media. Additionally, majors seeking the Graduate Certificate approved by the North Carolina State Department of Public Instruction are to select twelve hours of course work at the 700 level in the areas of: behavioral and humanities studies, relevant theory, and research. All majors complete the 700 level Internship and Seminar in Educational Media. While 30 semester hours are required to complete the Program, students are encouraged to strengthen the professional preparation through the selection of appropriate electives in Media.

Media Minor—(Associate Media Coordinator) The Associate Media Coordinator credentials approved by

the State Department of Public Instruction will terminate in 1986. Students enrolled in this phase of the Program may utilize these courses as the Media Minor. The Associate Media requirements include completion of 12-15 hours in media and 3-6 hours in relevant theory and behavioral and humanities studies. The Media Minor is required to complete the Media courses only.

Media Electives—Students preparing for careers in teaching, supervision, administration and technical fields will find media courses especially helpful in aiding in program design, development and communication.

CAREER OPPORTUNITIES

The media program at North Carolina A. and T. provides a variety of activities in preparing professional media personnel for positions in a myriad of agencies and services. Students have the opportunity to meet in-service media specialists who speak at Media Seminars and share experiences and prospects for employment. Professional workshops that bring new ideas, technology, and personalities to the campus support the instructional program and enhance the student's potentials for employment.

Over 1,600 public schools in North Carolina require full-time media personnel. Health service agencies, public communication agencies, personal training programs, junior and senior colleges and universities are among the many potential employers of well-prepared media specialists.

Suggested Curriculum for Media Major (Media Coordinator)

One Year Curriculum

Fall

611 Utilization of Educational Media	(3)
603 Production of Instructional Materials	(3)
601 Reference Materials and Methods	(3)
* Media elective optional	9

Spring

600 Organization of Media Collections	(3)
604 Administration of Educational Media	(3)
614 Book Selection and Related Materials for Young People or	(3)
613 Developmental Media for Children	(3)
* Media elective optional	9

Summer

I	
**701 Philosophy of Education	(3)
***Cognate Course	(3)
	6

II

**755 Supervision of Instruction	(3)
708 Educational Media Internship and Seminar	(3)
	6

* Media elective option. It is recommended that Media Majors elect courses in the area of instructional development to support the media preparation.

** Courses to satisfy behavioral and humanities studies may be taken from a range of offerings.

*** The cognate course may be selected from a discipline relevant to the student's needs and interest.

PROFESSIONAL STUDIES COMPONENT FOR SECONDARY AND SPECIAL AREAS

Sophomore Year

Fall Semester	Credit
311 301	2
Psych. 320	3
	5

Spring Semester	Credit
311 301	2
	2

Junior Year

Fall Semester	Credit
311 400	3
	3

Spring Semester	Credit
311 436	3
	3

Senior Year

Spring Semester	Credit
311 500	3
311 525 or appropriate methods course	3
311 560	6
310 637	3
	15

Urban Education Concentration

I. Nine semester hours of required courses

311 436	3
311 628	3
310 635 or 310 637	3

II. Six semester hours elected from the following courses:

311 302	3
310 315	3
311 402	3
311 413	3
Soc. 204	3
Psych. 420	3
History 420	3
Soc. 601	3
Poli. Sci. 643	3
Poli. Sci. 653	3
311 641	3
Health Ed. 651	3

Career Education Emphasis

Twelve semester hours are offered as follows:

311 605. Concepts for Career Education	Credit 3(3-0)
311 606. Curricular Integration of Career Education	Credit 3(3-0)
311 607. Administration of Career Education Programs	Credit 3(3-0)
311 608. Seminar in Career Education	Credit 3(3-0)

DIRECTORY OF FACULTY AND COURSES

Dorothy Prince Barnett, A.B., Oberlin College; M.A., Syracuse University; Ed.D., Indiana University; Professor
Gladys F. Blue, B.M., Williamette University; M.M., Eastman School of Music, University of Rochester; Ph.D., University of Akron; Associate Professor
Patricia Emery, B.S., Winston-Salem State University; M.S., N.C. A&T State University; Instructor
Alfonso E. Gore, B.S., Bluefield State College; A.M., West Virginia; C.A.G.S., Ed.D., Boston University; Professor
Vivian E. Harding, B.A., North Carolina Central University; M.Ed., Howard University; Ph.D., University of Maryland; Assistant Professor
Estell Harper, B.S., M.S., A. & T. College; Assistant Professor
Charles Hayes, A.B., Leland College; Ed.M., Loyola University (Illinois); Ed.D., University of Northern Colorado; Professor

Pamela I. Hunter, B.A., Livingstone College; M.Ed., University of North Carolina at Greensboro; Ph.D., Ohio State; Assistant Professor
Frissell Jones, B.S., Hampton Institute; M.Ed., D.Ed., Pennsylvania State University; Professor
Valena Lee, B.A., St. Augustine College; M.S., M.L.S., Indiana University; Assistant Professor
Albert Spruill, B.S., A. & T. College; M.S., Iowa State University; Ed.D., Cornell University; Professor and Dean of Graduate School
Marian Lee Vick, B.S., Fayetteville State University; M.A., University of Michigan; C.A.G.S., Syracuse University; Ed.D., Duke University; Professor and Chairperson
Leon Warren, B.S., M.S., North Carolina A. & T. State University; Instructor
Tommie M. Young, B.A., Tennessee State University; M.A.L.S., Peabody-Vanderbilt University; Ph.D., Duke University; Professor

Courses

100 Orientation
300 Introduction to Education
301 Philosophical and Sociological Foundations of Education
302 Field Experiences and Community Services
303 Socio-Philosophical Aspects of Education
343 Methods and Materials of Bibliography
400 Psychological Foundations of Education: Growth and Development
402 Extramural Studies I
413 Learning and Practice
436 Tests and Measurements
500 Principles and Curricula of Secondary Schools
525 Methods of Teaching Art
526 Methods of Teaching English
527 Methods of Teaching Foreign Languages
528 Methods of Teaching Home Economics
529 Methods of Teaching Mathematics
530 Public School Music Methods
531 Vocal Methods and Materials
532 Band Methods

- 533 The Teaching of Physical Education
- 534 The Teaching of Health Education
- 535 Methods of Teaching Science
- 536 Methods of Teaching Social Sciences
- 539 Methods of Teaching Speech and Theatre
- 560 Observation and Student Teaching
- 561 Seminar
- 602 Extramural Studies II
- 605 Concepts of Career Education
- 606 Curricular Integration of Career Education
- 607 Administration of Career Education Programs
- 608 Seminar in Career Education
- 625 Theory of American Public Education
- 626 History of American Education
- 627 The Afro-American Experience in American Education
- 628 Seminar and Practicum in Urban Education
- 641 Teaching the Culturally Disadvantaged Learner

Course descriptions are available upon request from the Dean of the School.

Courses in Media

Core Curriculum

Advanced Undergraduate and Graduate Courses

- 603 Production of Instructional Materials
- 604 Administration of Educational Media
- 611 Utilization of Educational Media

Concentration

- 600 Organization of Media Collections
- 601 Reference Materials
- 609 Production for Instructional Radio and Television
- 610 Broadcasting for Instructional Radio and Television
- 612 Systems Approach and Curriculum
- 613 Developmental Media for Children (books and non-book materials)
- 614 Book Selection and Related Materials for Young People
- 615 Programming for Instructional Radio and Television

Graduate Courses

- 704 Professional Development of Media Personnel
- 705 Programmed Instruction
- 706 Media Retrieval Systems

- 707 Workshop in Educational Media
- 708 Educational Media Research and Internship
- 706 Media in Special Education and Reading
- 712 Advanced Information Services
- 713 Computers in Education
- 715 Advanced Production in Instructional Radio and Television
- 717 Media Services to Business and Industry

Course descriptions are available upon request from the Dean of the School.

Courses—Early Childhood and Reading

- 315 Family, Community and School
- 451 Foundations of Early Childhood Education
- 510 Teaching Language Arts in the Intermediate Grades
- 511 Teaching Reading in the Intermediate Grades
- 512 Social Studies in the Intermediate Grades
- 513 Strategies in Teaching Science in the Intermediate Grades
- 514 Strategies in Mathematics Instruction for the Intermediate Grades
- 519 Preschool Materials, Methods, and Laboratory
- 556 Curriculum and Methods in Literature, Language Arts and Social Studies in Early Childhood Education
- 557 Curriculum and Methods in Science and Mathematics in Early Childhood Education
- 558 Seminar and Student Teaching in Early Childhood Education
- 620 Foundations in Reading Instruction
- 621 Word Identification/Recognition Skills
- 622 Teaching Reading Through the Primary Years
- 623 Methods and Materials in Teaching Reading in the Elementary School
- 624 Teaching Reading in the Secondary School
- 629 Classroom Diagnosis in Reading
- 630 Reading Practicum
- 631 Reading for the Atypical Learner
- 683 Curriculum in Early Childhood
- 684 Methods in Early Childhood

Course descriptions are available upon request from the Dean of the School.

Department of Human Development and Services

Wyatt D. Kirk, Chairperson

OBJECTIVE

The objective of the Department of Human Development and Services is to prepare individuals for positions in counseling and guidance in both educational and non-educational settings and to strengthen and improve the practitioner's professional skills in the area of human services. The program includes courses in theories and procedures, theoretical and practical examination of human development and changes, technique oriented courses, and a heavy emphasis in supervised practice. Graduates of the program are prepared to work in a variety of counseling settings, middle and secondary schools, junior colleges, and private agencies.

DEGREES OFFERED

Counselor Education—M.S.
Student Personnel Worker or Agency Counselor—M.S.
Human Resource Concentration—M.S.

GENERAL PROGRAM REQUIREMENTS

* Following acceptance by the School of Graduate Studies, the Department of Human Development and Services will accept students once they have completed nine hours of course work, at which time they will be evaluated, also, based upon their undergraduate grade point average, and the Department Faculty recommendation process.

Also, after acceptance by the Graduate School (not the department), each student indicating an interest in Human Development and Services will be assigned an advisor who will assist in constructing a degree program consistent with

** See the Bulletin of the Graduate School*

the student's vocational goal and educational interest. Program development must be completed before evaluation for departmental acceptance at the end of the nine hours.

DEPARTMENT REQUIREMENT

Counselor Education Majors—the major in Counselor Education curriculum must complete 45 semester hours of graduate courses. The prerequisites for admission to the program are: 1) Introduction to Guidance and/or its equivalency, and 2) a course in Educational Statistics or Test Measurements. A minimum grade of "B" must be achieved in the curriculum. This program is designed for the individual who seeks a School Counselor's Certificate and the Master's Degree.

Student Personnel Worker or Agency Counselor—the major in Student Personnel Worker or Agency curriculum must complete 45 semester hours of graduate courses. The prerequisites for admission to the program are: 1) Introduction to Guidance, 2) Personnel Management. A minimum grade of "B" must be achieved in the curriculum.

This program is designed for the individual who seeks a non-school Counselor's Master's Degree. Also, this program is for students who are interested in a non-certification program and/or interested in professional counseling career in an agency setting or post-secondary student personnel worker.

Human Resources Concentration—the major in the Human Resource concentration must complete 48 semester hours of graduate courses. The prerequisites for admission to the program are: 1) Elementary Statistics or Test Measurements, 2) Industrial Psychology 445 and 3) Personnel Management 522.

ACCREDITATION

All education programs are accredited by the National Council for Accreditation of Teacher Education and approved by the North Carolina State Department of Public Instruction.

CAREER OPPORTUNITIES

Traditionally, students receiving the Master's degree from Counseling and Guidance have found jobs in school settings (middle and secondary), junior colleges, public agencies (family services, youth services, welfare departments, and state agencies) and private agencies. Presently, and additionally, career and training areas, industry and government or the local, state, and national level.

SEQUENTIAL (SUGGESTED) CURRICULUM ORDER FOR HUMAN DEVELOPMENT AND SERVICE MAJORS

COUNSELOR EDUCATION MASTER OF SCIENCE

First Year

<i>First Semester</i>	Credit
320-600 Introduction to Guidance	3
Technical Core	3
320-623 Personality Development	3
	9

<i>Second Semester</i>	Credit
311-436 Test and Measurements	3
Technical Core	3
320-706 Organization Administration Guidance Services	3
	9

Second Year

<i>Third Semester</i>	Credit
320-714 Internship in Guidance	3
Elective Core	3
320-718 Introduction to Counseling	3
	9

<i>Fourth Semester</i>	Credit
320-716 Techniques of Individual Analysis	3
Elective Core	3
320-720 Theories of Counseling	3
	9

<i>Fifth Semester*</i>	Credit
320-717 Educational/Occupational Education	3
320-726 Educational Psychology	3
320-730 Guidance Practicum	3
320-731 Group Practicum	3
	12

* Comprehensive Examination in the Fifth Semester

SEQUENTIAL (SUGGESTED) CURRICULUM ORDER FOR HUMAN DEVELOPMENT AND SERVICES MAJORS, STUDENT PERSONNEL WORKER OR AGENCY COUNSELOR MASTER OF SCIENCE

First Year

<i>First Semester</i>	Credit
320-600 Introduction to Guidance	3
311-436 Tests and Measurements	3
Technical Core	3
	9

<i>Second Semester</i>	Credits
320-600 Introduction to Guidance	3
311-436 Tests and Measurements	3
Technical Core	3
	9

<i>Second Semester</i>	Credit
320-522 Personnel Management	3
320-707 Research Seminar	3
Technical Core	3
	9

<i>Third Semester</i>	Credit
320-623 Personality Development	3
320-716 Techniques of Individual Analysis	3
Technical Core	3
	9

<i>Fourth Semester</i>	Credit
320-717 Educational/Occupational Information	3
320-718 Introduction to Counseling	3
Elective Core	3
	9

<i>*Fifth Semester</i>	Credit
320-720 Theories of Counseling	3
320-730 Counseling Practicum	3
320-731 Group Practicum	3
Elective Core	3
	12

**SEQUENTIAL (SUGGESTED)
CURRICULUM ORDER FOR
HUMAN DEVELOPMENT AND
SERVICES MAJORS**

**HUMAN RESOURCE
CONCENTRATION
MASTER OF SCIENCE**

First Year

<i>First Semester</i>	Credit
311-435 Test and Measurements	3
320-600 Introduction to Guidance	3
Technical Core	3
	<hr/> 9

Second Semester

	Credit
220-445 Industrial Psychology	3
520-522 Business Administration	3
320-623 Personality Development	3
	<hr/> 9

Second Year

<i>Third Semester</i>	Credit
320-718 Introduction to Counseling	3
320-717 Educational/Occupational Information	3
Technical Core	3
	<hr/> 9

Fourth Semester

	Credit
320-716 Techniques of Individual Analysis	3
320-707 Research Seminar	3
320-720 Theories of Counseling	3
320-731 Group Practicum	3
Elective Core	3
	<hr/> 15

Third Year

<i>Fifth Semester</i>	Credit
320-725 Manpower Internship	3
320-730 Counseling Practicum	3
320-731 Group Practicum	3
Elective Core	3
	<hr/> 12

* Comprehensive Examination in the fifth semester

** Manpower Internship may be taken between fourth and fifth semesters

**DIRECTORY OF FACULTY
AND COURSES**

Wyatt D. Kirk, B.S., M.S., Ed.D.,
Western Michigan University;
Associate Professor and Chair-
person
Harold L. Lanier, B.S., North Carolina
A&T State University; Instructor

Aurelia C. Mazyck, B.S., Howard Uni-
versity; M.S., New York Uni-
versity; Ph.D., The University of North
Carolina at Greensboro; Associate
Professor

Jesse E. Marshall, B.S., Agricultural,
Mechanical and Normal College;
M.S., Ed.D., Indiana University;
Professor

Morris C. Peterkin, B.S., Cheyney
State College; M.S., Governor's
State College; M.Ed. Certificate,
Temple University; Ph.D., Uni-
versity of Pittsburgh; Associate
Professor

Myrtle B. Sampson, B.S., M.L.S.,
North Carolina Central University;
M.A., University of North Carolina
at Greensboro; Ph.D., Heed Uni-
versity; Associate Professor

Jane H. Walter, B.A., Wake Forest
University; M.Ed., University of
North Carolina at Chapel Hill; Post
Master's Counseling, University of
Delaware; Ed.D., Virginia Poly-
technic Institute and State Uni-
versity; Assistant Professor

Courses

435 Educational Psychology
600 Introduction to Guidance
623 Personality Development
660 Introduction to Exceptional
Children
661 Psychology of the Exceptional
Child
662 Mental Deficiency
663 Measurement and Evaluation in
Special Education
664 Materials, Methods, and
Problems in Teaching Mentally
Retarded Children
665 Practicum in Special Education
706 Organization and Administration
Guidance Services
707 Research Seminar
714 Internship in Guidance
715 Measurement for Guidance
716 Techniques of Individual Analysis
717 Educational/Occupational
Information
718 Introduction to Counseling
719 Case Studies in Counseling
720 Theories of Counseling
721 Independent Studies
722 Career Education and Vocational
Development Theories
723 Student Personnel Services in
Post-Secondary Education
724 Advanced Counseling Theories,
Strategies and Techniques
725 Human Resources Internship

726 Educational Psychology
727 Child Growth and Development
728 Measurement and Evaluation
729 Mental Hygiene for Teachers
730 Counseling Practicum
731 Group Practicum

**Department of
Health, Physical
Education and
Recreation**

Calvin Irvin, Acting Chairperson

OBJECTIVES

The objectives of the Department of
HPER are to provide

1. instruction in a wide variety of
physical education activities to
meet the needs and interests of
all students in the required
general education program of the
University;
2. recreational outlets for students
and members of the University
community through conduct of
informal recreational activities;
3. enrich the total University
program through cooperation
with the programs of such units
of the University as the music
and dramatic groups, alumni
association, agricultural home-
making groups, guidance and
health service divisions;
4. necessary preparation for
students planning careers as
teachers of kindergarten,
elementary, junior and senior
high school health and physical
education and athletic coaches
and recreational administration;
5. courses in health, physical
education which meet State and
National Teacher Certification
standards;
6. courses in Recreation which meet
guidelines of National Recrea-
tion and Park Administration.

DEGREES OFFERED

Health and Physical Education—
B.S.
Recreation Administration—B.S.
*Health and Physical Education—
M.S.

* See Graduate School Catalogue.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree program in the Department of Health, Physical Education and Recreation is based upon the general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

Any physical education major who seeks exemption from participating in an activity course should seek such an exemption during his first year of enrollment in the Department.

Prior to admission to the Teacher Education Block, students should have the approval of their advisor and the Department chairman. Care should be taken to see that students enrolling in the Teacher Education Block have removed all deficiencies.

All "D's" and "F's" received in 400 and 500 level Major and Professional courses must be repeated.

* See Graduate School Catalogue.

CAREER OPPORTUNITIES

The potential job market for Health and Physical Education majors over the next five years appears to be promising for the person who has equipped himself or herself with competencies that will give strength in areas allied to Health and Physical Education. Jobs will be available in Health and Physical Education and Coaching. Also there is a great need for trainers in schools and community agencies.

The potential for Recreation is growing rapidly. Areas such as Recreation Center Directors, Administrators in National Park Service, Commercial Recreators, Recreation Therapists will be in great demand in the future.

SUGGESTED CURRICULUM GUIDE FOR A TEACHING MAJOR IN HEALTH AND PHYSICAL EDUCATION

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 101	3
History 100	3
Biological Science 100	4
Physical Education 101	1
Education 100	1
Health Education 200	2
	17

<i>Second Semester</i>	Credit
English 101	3
Mathematics 102	3
History 101	3
Physical Science 100	4
Physical Education 102	1
Community Health	2
Physical Education 240	2
	18

Sophomore Year

<i>First Semester</i>	Credit
Education 300	2
Speech 250	2
Humanities 200	3
Foreign Language	3
Psychology 320	3
Physical Education 229	1
Physical Education 234	1
Physical Education 237	1
Physical Education 246 or	1
Physical Education 249	1
Physical Education 261	1
Air or Military Science	2
(Optional)	
	17 (19)

<i>Second Semester</i>	Credit
Education 301	2
Humanities 201	3
Foreign Language	3
Zoology 160	4
Physical Education 231	1
Physical Education 235 or	1
Physical Education 238	1
Physical Education 247 or	1
Physical Education 251	1
Physical Education 361	1
Air or Military Science	2
(Optional)	
	16 (18)

Junior Year

<i>First Semester</i>	Credit
Education 400	3
Zoology 469	4
Physical Education 446	3
Physical Education 448 or	
Physical Education 451	1
Physical Education 453 or	
Physical Education 456	2
Physical Education 460	2
Physical Education 462	2
	17

<i>Second Semester</i>	Credit
Education 436	3
Zoology 560	3
Physical Education 445	2
Health Education 442	3
Physical Education 450 or	
Physical Education 452	1
Physical Education 45	2
Physical Education 45 or	
Physical Education 461	2
Health Education 440	2
	18

Senior Year

<i>First Semester</i>	Credit
Health Education 560	2
Physical Education 563	2
Physical Education 568	1
Physical Education 569	3
Physical Education 566	3
Physical Education 567	1
	12
<i>Second Semester</i>	Credit
Education 500	3
Education 560	6
Education 624	3
Education 533	3
	15

SUGGESTED CURRICULUM GUIDE FOR RECREATION

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 101	3
History 100	3
Biological Science 100	4
Physical Education 101	1
Health Education 200	2
Education 100	1
	17

<i>Second Semester</i>	Credit
Physical Education 102	1
Chemistry 100	3
Chemistry 110	1
English 101	3
Mathematics 102	3
Physical Education 261	1
History 101	3
	<u>15</u>

Sophomore Year

<i>First Semester</i>	Credit
Humanities 200	3
Physical Education 460	2
Speech 250	2
Psychology 320	3
Industrial Education 210	2
Economics 301	3
Physical Education 361	1
Physical Education 231	1
	<u>17</u>

<i>Second Semester</i>	Credit
Physical Education 247	1
Humanities 201	3
Sociology 100	3
Health Education 220	2
Physical Education 442	3
Physical Education 229	1
Art 401	3
	<u>16</u>

Junior Year

<i>First Semester</i>	Credit
Recreation 402	2
Political Science 210	3
Recreation 464	2
Music 119	2
Physical Education 448	1
Recreation 561	3
Psychology 420	3
	<u>16</u>

<i>Second Semester</i>	Credit
Recreation 408	2
Recreation 463	3
Recreation 465	3
Recreation 466	3
Physical Education 344	1
Physical Education 458	2
	<u>14</u>

Recreation 112—Summer Field Experience 6

Senior Year

<i>First Semester</i>	Credit
Recreation 509	2
Education 644	3
Physical Education 566	3
Recreation 570	3
Business Administration 322	3
	<u>14</u>

<i>Second Semester</i>	Credit
Recreation 510	2
Sociology 204	3
Business Administration 451	3
Electives	4
	<u>12</u>
Total Credit Hours	127

DIRECTORY OF FACULTY AND COURSES

Calvin C. Irvin, B.S., University of Illinois; M.A., Columbia University; Associate Professor
Dorothy Alston, B.S., North Carolina A. and T. State University; M.A., North Carolina Central University; Ed.D., University of North Carolina at Greensboro; Professor
Timothy Abney, B.S., Lincoln University; Visiting Lecturer
Ernestine Compton, B.S., Central State College; Ed.M., Temple University; Assistant Professor
Donald Corbett, B.S., Lincoln University; M.S., University of Illinois; Head Basketball Coach; Visiting Lecturer.
Leonard Dudka, B.S., M.A., California State Polytechnic College; Ph.D., University of Illinois-Urbana; Professor
Jack Eatinger, B.S., University of Notre Dame; M.S., Bemidji State University, Minnesota; Visiting Lecturer.
Maurice Forte, B.S., University of Minnesota; Head Football Coach; Visiting Lecturer.
Linwood Ferguson, B.S., M.S., East Carolina University; Visiting Lecturer.
Melvin Groomes, B.S., Indiana University; M.S., North Carolina A. and T. State University; Assistant Professor
Eleanor W. Gwynn, B.S., Tennessee State A. and I. University; M.F.A., University of N. C. at Greensboro; Ph.D., University of Wisconsin-Madison; Assistant Professor
Victor Karabin, B.S., Westchester State College; M.S., University of Illinois; Instructor
Roger McKee, B.S., M.S., North Carolina A. and T. State University; Instructor
Roy D. Moore, B.S., North Carolina Central University, M.S., Ph.D., University of Illinois; Professor

Rayford Petty, B.S., Elon College; Visiting Lecturer
Bert C. Piggott, B.S., M.S., University of Illinois; Ed.D., University of North Carolina at Greensboro; Professor
Melvin B. Pinckney, B.A., Glassboro State College; M.S., North Carolina A. and T. State University
Craig Raye, B.A., Michigan State; Visiting Lecturer
Randa Russell, A.B., Kentucky State College; B.S., North Carolina A. and T. State University; A.M., University of Michigan; M.P.H., University of Minnesota; Ed.D., University of Michigan; Professor
Joyce Spruill, B.S., M.S., North Carolina A. and T. State University; Instructor
DeWitt C. Thompson, B.S., North Carolina State University; M.S., University of North Carolina-Chapel Hill; Assistant Professor
Joseph Williams, B.S., North Carolina A. and T. State University; M.S., University of Michigan; Assistant Professor

Courses

101 Fundamentals of Physical Education
102 A Continuation of 101
229 Modern Dance
231 Folk and Tap Dance
233 Social and Country Dance
234 Team Sports: Hockey, Soccer, Basketball (Women)
235 Team Sports: Volleyball, Speedball, Softball (W)
273 Group Games, Football and Basketball
238 Baseball, Track and Field
240 Introduction to Physical Education
246 Individual Sports: Archery, Tennis, Badminton, Golf
247 Individual Sports: Recreational Games
248 Adapted Physical Education
249 Individuals Sports and Combatives
251 Softball, Soccer, and Volleyball (Men)
252 Touch Football, Speedball, and Basketball (Men)
261 Swimming, Beginning, Fall or Spring
263 Rhythmics
335 Adapted Physical Education
343 Bowling
344 Beginning Tennis and Badminton
361 Intermediate Swimming
441 Beginning Golf

- 443 Skating for Beginners
- 445 Kinesiology
- 446 History and Principles of Physical Education
- 448 Gymnastics I
- 450 Advanced Gymnastics
- 451 Dance Composition
- 452 Applied Dance
- 453 Techniques and Methods in Fall and Indoor Activities
- 454 Adapted Physical Education
- 455 Techniques and Methods of Seasonal and Indoor Activities
- 456 Teaching Soccer, Football, Basketball
- 458 Lifesaving, Water Safety
- 460 Community Recreation
- 461 The Teaching of Individual Sports and Net Games
- 462 Elementary School Physical Education
- 457 Baseball Stunts
- 562 The Teaching of Physical Education
- 563 Adapted Physical Education
- 564 Minor Problems in Physical Education
- 566 The Organization and Administration Health and Physical Education
- 567 Advanced Techniques and Methods in Physical Education Activities
- 568 Physical Education Specialization
- 569 Methods of Research and Evaluation in Health and Physical Education

Recreation Courses

- 112 Summer Field Experience
- 402 Field Experience I
- 408 Field Experience II
- 463 Principles and Practices of Outdoor Recreation
- 464 Group Leadership
- 465 Program Planning in Recreation
- 466 Camp Administration
- 509 Field Experience III
- 510 Field Experience IV
- 561 Methods of Research and Evaluation in Recreation
- 570 Supervision of Recreation and Park Services

Course descriptions are available upon request from the Dean of the School.

Department of Industrial Education

George C. Gail, Chairperson

GOALS AND OBJECTIVES

Department Goals

1. To develop competencies necessary for persons to secure positions in Industrial-Technical Teaching at the secondary and post secondary school level or in related industrial, business, government careers requiring technical preparation.
2. To provide inservice training opportunities for persons desiring to secure or renew North Carolina Certificates to teach or supervise Industrial Arts Education Programs, Trade and Industrial Education Programs, Industrial Cooperative Training, Middle Grades Occupational Exploration, Local Directors of Occupational Education, and Vocational Disadvantaged/Handicapped.

Department Objectives

1. To develop technological competencies in manufacturing, graphics, electronic communications, construction, power and transportation industries.
2. To develop competencies in organizing and directing instructional programs, curriculum planning, and media utilization.
3. To develop competencies in planning, managing, and maintaining Industrial Education facilities.
4. To develop proficiencies in using: Technological problem-solving processes, occupational and consumer knowledge, safety skills and understandings, as Industrial Education course content.
5. To stimulate scholarly and scientific attitudes towards the problems and profession of industrial-technical teaching.

DEGREES OFFERED

- Industrial Arts Education—B.S.
- Vocational Industrial Education—B.S.
- *Industrial Education—M.S.
- Certification Options:
 - Industrial Arts Education (Teaching)
 - Trade and Industrial Education (Teaching and Administration)

**See the Bulletin of the Graduate School.*

GENERAL PROGRAMS REQUIREMENTS

Initial admission of students to undergraduate degree programs is based on general admission requirements of the University.

Admission, retention, and state certification of students in Industrial Teacher Education programs are based on policies described under the School of Education.

Community College and Technical Institute graduates and other transfer students may be admitted to undergraduate Industrial Education programs with advanced classification by submitting credentials to the University Admissions Office for individual assessment. Maximum transfer credit from Associate Degree programs is 62 semester hours or approximately Junior status.

General requirements for graduation are based on policies stated for the University and for teacher candidates in the School of Education.

DEPARTMENTAL REQUIREMENTS

Industrial Arts Education Major. Students must complete 127 semester hours, which includes 48 semester hours in general studies, 28 semester hours in Professional Education courses, and 51 semester hours in major courses. The grade point average in major courses must be 2.0 or better.

Vocational Industrial Education Major. Students must complete 127 semester hours, which includes 48 semester hours in general studies, 28 semester hours in Professional

Education courses, and 51 semester hours in major courses with a 2.0 average or better. Included in the 51 hour major sequence are thirty hours of technical studies concentrated in one of the following six optional cluster areas listed below:

Construction Industries
Drafting and Graphic Industries
Electronic Industries
Manufacturing Industries
Service Industries
Transportation Industries

For persons who possess prior technical transfer credits or work experience in recognized areas of trade and industrial teaching, further technical sub-optional concentrations are available within the cluster areas above. Such students will pursue individualized programs tailored to meet their specific needs, provided the following conditions are satisfied:

1. The area selected for a technical concentration in the major must be recognized by the North Carolina State Department of Public Instruction for T&I teacher certification.
2. The student must initially enter the program with advanced classification.
 - Persons holding an Associate Degree in the technical field selected for teacher certification may apply such transfer credits toward meeting technical course requirements.
 - Persons meeting University admission requirements desiring to substitute work/trade experience to meet technical course requirements in the field selected for teacher certification, may receive college credit by satisfactory completion of a competency-based examination.

NOTE: Transfer students, and persons applying college credits earned through competency examinations who are enrolled in individualized programs of study, may apply a maximum of 22 semester hours of credit toward meeting technical course requirements in the Vocational Industrial Education major.

ACCREDITATION

The Industrial Teacher Education programs are accredited by the National Council for Accreditation of Teacher Education. All programs are approved by the North Carolina State Department of Public Instruction.

CAREER OPPORTUNITIES

Excellent employment opportunities exist for persons trained in Industrial Education. Public schools, post secondary schools and colleges in North Carolina and other states are in constant need of securing qualified teachers for industrial courses. Teaching positions continue to remain open for Industrial Arts specialists, shortages of personnel are reported in many states. Schools are experiencing difficulty in locating competent persons to fill vacancies.

Many career opportunities also exist for Industrial Education graduates in positions requiring an Industrial-Technical background; industrial-business enterprises, government agencies, rehabilitation and manual arts therapy centers, private schools, and recreational camps employ an estimated one-fourth of Industrial Education graduates as training directors, managers, supervisors, engineering assistants, sales, and safety personnel.

Free employment and placement services are available through the Industrial Education Department and University Placement Office.

The general and professional education programs for Vocational and Industrial Arts teachers are very similar, the major difference is in the area of technical concentration. A Vocational Industrial Education major studies and is certified to teach one Trade or Industrial occupation in depth; the Industrial Arts major studies and is certified to teach many areas of technology.

INDUSTRIAL ARTS TEACHERS

Industrial Arts Teachers generally work with public school and college students assisting them to acquire fuller understandings and insights of various aspects of industry, its materials, production methods, products, operation, management, and personnel. Careers in Industrial Arts

Teaching are open to men and women possessing technical competencies, creativity, ingenuity, organizational, and leadership abilities; and who enjoy working with youth and adults to help them acquire technical skills and knowledge.

The curriculum encompasses a study of many areas of technology such as Manufacturing, Construction, Electronics and Graphic Communication, Power and Transportation. Opportunities are provided for students to gain experience in: Drafting and Design; Wood, Metal, Plastic, and Craft Fabrication; Electricity-Electronics; Printing and Photography; Small Engines and Automotives. Students are actively involved in studying, planning, organizing, constructing, experimenting, testing, servicing and evaluating materials, processes, and products of industry. Students acquire knowledge of Industrial enterprise organizations and occupations, they develop competency in teaching methods and techniques, course planning and laboratory management.

VOCATIONAL INDUSTRIAL EDUCATION

The Vocational Industrial Education teachers work with high school or post secondary school students whose primary interest is training for a specific job in one industrial occupation. The training of a Vocational teacher must reflect a concentration of study and work experience in one of the Trade and Industrial occupations, therefore, he must select one industrial area for study from the technical options indicated in this curriculum.

Qualifications for success as a Vocational teacher requires a high degree of interest and aptitude in a single trade or occupational family, plus the ability and desire to work with and train people for jobs in industrial-technical occupations. North Carolina requires evidence of two or more years of work experience for certification of teachers in practically all areas of Trade and Industrial Education.

INDUSTRIAL ARTS EDUCATION CURRICULUM	
Freshman Year	
<i>First Semester</i>	Credit
ME 101—Engrg. Graphics	3
IE 260—Found. Ind. Ed.	2
English 100	3
History 100	3
Mathematics 101	3
CHEM 100—Physical Science	3
CHEM 110—Physical Science Lab	1
	18
<i>Second Semester</i>	Credit
ME 102—Engrg. Graphics II	3
IE 261—Voc. Ind. Ed.	2
English 101	3
History 101	3
Mathematics 101	3
Biology 100	4
	18
Sophomore Year	
<i>First Semester</i>	Credit
IE 233—Ind. Arts Draft. I	3
IT 210—Construction Tech.	3
IT 294—Electricity-Electronics	3
IT 470—Manufacturing Industries	3
IE 463—Car. Guid. & Occup. Inf.	2
English 200	3
	17
<i>Second Semester</i>	Credit
IE 234—Ind. Arts Draft.	3
IT 213—Wood Tech.	3
IT 231—Elect.—Electronics	3
IT 471—Metals Tech.	3
IE 263—Evol. & Org. of Tech.	3
English 201	3
	18
Junior Year	
<i>First Semester</i>	Credit
IT 293—Power Tech.	3
IE 412—Uphol. & Furn. Const.	3
IE 462—School Shop Desgn. and Mgmt.	2
IE 510—General Shop	2
Economics 300	3
Speech 250	2
Physical Education	1
	16
<i>Second Semester</i>	Credit
Elective	2
IE 130—Graphic Comm. Ind.	2
IE 465—Instruc. Analysis	2
IE 566—Ind. Ed. Tech. Mthd.	3
CUIN 400	3
Sociology 100	3
	15

Senior Year	
<i>First Semester</i>	Credit
IE 210—Ind. Crafts	2
IE 662—Ind. Course Constr.	3
CUIN 436	3
Psychology 320	3
PE 200—Personal Hygiene	2
	13
<i>Second Semester</i>	Credit
CUIN 500	2
CUIN 560	6
CUIN 624	3
	12

VOCATIONAL INDUSTRIAL EDUCATION CURRICULUM

Freshman Year	
<i>First Semester</i>	Credit
IE 260—Found. Ind. Ed.	2
ME 101—Engrg. Graphics	3
English 100	3
English 200	3
History 100	3
Mathematics 111	4
	18
<i>Second Semester</i>	Credit
IE 261—Voc. Ind. Ed.	2
Technical Major	3
English 101	3
English 201	3
History 101	3
Mathematics 112	4
	18

Sophomore Year	
<i>First Semester</i>	Credit
IE 463—Guid. & Occup. Inf.	2
Technical Major	7
IT 470—Mfg. Industries	3
Chemistry 100	3
Chemistry 110	1
	16
<i>Second Semester</i>	Credit
IE 263—Evol. & Org. of Tech.	3
Technical Major	7
Biology 100	4
Sociology 100	3
	17

Junior Year	
<i>First Semester</i>	Credit
IE 462—Sch. Shop Desgn. and Mgmt.	2
IE 510—General Shop	2
Technical Major	4
Physics 211	3
Physics 216	1
Economics 300	3
Speech 250	2
Physical Education	1
	18
<i>Second Semester</i>	Credit
IE 465—Instr. Analysis	2
IE 566—Ind. Ed. Teach. Mthds.	3
Technical Major	4
Major Elective	3
CUIN 400	3
	15

Senior Year	
<i>First Semester</i>	Credit
IE 662—Ind. Course Constr.	3
Agricultural Ed. 400	2
CUIN 436	3
Psychology 320	3
PE 200—Personal Hygiene	2
	13
<i>Second Semester</i>	Credit
CUIN 500	3
CUIN 560	6
CUIN 624	3
	12

VOCATIONAL INDUSTRIAL EDUCATION OPTIONAL AREAS FOR TECHNICAL MAJOR

*(Select Technical Major Concentration in one of the following areas)	
TRANSPORTATION INDUSTRIES:	
*IE 233 Industrial Arts Drafting I	3
*IT 293 Power Technology	3
*IT 254 Automotive Fundamentals	4
*IT 255 Automotive Power Transmission	4
*IT 451 Automotive Instrumentation and System Analysis	4
*IT 452 Automotive Service Management	4
CONSTRUCTION INDUSTRIES:	
*IE 432 Architectural Drafting	3
*IT 210 Construction Technology	3
*IT 213 Wood Technology	3
*IT 215 Residential Construction	4
*IT 216 Commercial/Industrial Construction	4
*IT 217 Construction Estimating	4

DRAFTING AND GRAPHIC INDUSTRIES:

*ME 102 Engineering Graphics II	3
*IT 210 Construction Technology	3
*IE 233 Industrial Arts Drafting I	3
*IE 234 Industrial Arts Drafting II	3
*IE 235 Technical Drafting	3
*IE 434 Advanced Architectural Drafting	3
*IE 436, Machine Design Drafting	3

ELECTRONIC INDUSTRIES:

*IE 235 Technical Drafting	3
*IT 210 Construction Technology	3
*IT 231 Electronic Communications Circuits	3
*IT 234 Electronic Instrumentation	3
*IT 430 Industrial Electronics	3
*IT 431 Digital Electronics	3
*IT 432 Microprocessors Applications	4

MANUFACTURING INDUSTRIES:

*IE 233 Industrial Arts Drafting I	3
*IT 210, Construction Technology or 293 Power Technology	3
*IT 471 Metal Technology	3
*IT 472 Manufacturing Processes—Production I	4
*IT 480 Mechanical Design and Manufacturing Problems	4
*IT 481 Manufacturing Processes, Metallurgy	4

**Vocational Industrial Education students, enrolled in individualized programs leading to T&I teacher certification in optional technical fields, may substitute major technical courses after consulting with and securing approval of advisor.*

DIRECTORY OF FACULTY

Charles W. Pinckney, B.S., South Carolina State College; M.S., University of Illinois; D.Ed., Pennsylvania State University; Professor and Director, Division of Industrial Education and Technology
George C. Gail, B.S., A&T College; M.S., University of Minnesota; Associate Professor and Chairperson
James L. Jenkins, B.S., Hampton Institute; M.S., North Carolina A&T State College; Assistant Professor
William H. Peeler, B.S., North Carolina A&T State College; M.S., North Carolina A&T State University; Assistant Professor

COURSES IN INDUSTRIAL EDUCATION

Undergraduate

Crafts

210 Industrial Crafts
211 Designing, Carving, and Stamping Leather Craft
218 Repair and Maintenance of Home Furniture
412 Upholstery—Furniture Construction
413 Woodturning
415 Comprehensive Shop Projects
510 General Shop

Graphic Arts

130 Graphic Communication Industries
230 Introduction to Photography
231 Advanced Photography
233 Industrial Arts Drafting I
234 Industrial Arts Drafting II
235 Technical Drafting
430 Technical Illustrations and Design
432 Architectural Drafting
434 Advanced Architectural Drafting
435 Architectural Design
436 Machine Design Drafting
536 Tool and Machine Design

Professional

260 Foundations of Industrial Education
261 Vocational Industrial Education
263 Evolution and Organization of Technology
462 School Shop Design and Management
463 Career Guidance and Occupational Information
465 Instructional Analysis Techniques
555 Industrial Safety Supervision
566 Industrial Education Teaching Methods
Observation And Student Teaching—See Education 560

Courses for Advanced Undergraduate and Graduate Students

616 Plastic Technology
617 General Crafts
618 Vocational Education for Special Needs Students
619 Industrial Arts Construction
620 Industrial Arts Manufacturing
630 Photography and Educational Media
635 Graphic Arts
660 Industrial Cooperative Programs

661 Organization of Related Study Materials
662 Industrial Course Construction
663 History and Philosophy of Industrial Education
664 Occupational Exploration for Middle Grades
665 Middle Grades Occupational Exploration-Industrial Occupations
666 Curriculum Modification for Vocational Education Special Needs Personnel
668 Independent Studies in Industrial Education

Graduate Courses in Industrial Education

715 Comprehensive General Shop
717 Industrial Education Problems I
718 Industrial Education Problems II
719 Advanced Furniture Design and Construction
731 Advanced Drafting Techniques
762 Evaluation of Vocational Education Programs
763 General Industrial Education Programs
764 Supervision and Administration of Industrial Education
765 Evaluation in Industrial Subjects
766 Curriculum Laboratory in Industrial Education
767 Research and Literature in Industrial Education
768 Industrial Education Seminar
769 Thesis Research in Industrial Education

Course descriptions are available upon request from the Dean of the School.

Department of Industrial Technology

Arlington Chisman, Chairperson

OBJECTIVES

Students in Industrial Technology will develop competencies related to application and utilization of materials and production processes, principles of distribution and concepts

of industrial management and human relations. Students will develop a proficiency level in the physical sciences, communication skills, mathematics, design and technical skills to permit the graduate to capably cope with technical, managerial and production problems.

DEGREES OFFERED

Industrial Technology, Auto-
motive—B.S.
Industrial Technology, Construc-
tion—B.S.
Industrial Technology, Elec-
tronics—B.S.
Industrial Technology, Manu-
facturing—B.S.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree program in the Department of Industrial Technology is based upon the general admission requirements of the University.

DEPARTMENTAL REQUIREMENTS

Technology majors must complete 124 semester hours of University courses. A minimum of 16 semester hours must be completed in one of the technical options.

A grade of "C" or better must be earned in all major courses. Students who wish to transfer to Industrial Technology from other disciplines must have a minimum grade-point average of 2.0. Students are required to purchase lab books where applicable.

Graduates of technical institutes and community colleges who have earned the Associate Degree in the following technology areas may be admitted to the Industrial Technology program as juniors: Civil Engineering, Electrical Engineering, Electronics Engineering, Manufacturing Engineering, Mechanical Engineering, and Mechanical Drafting and Design. (Graduates of other technologies are invited to submit

their credits for consideration.) Specific course requirements for these students will have to be made on an individual basis after their previously earned credits have been assessed. The typical student in this program will be required to take at least 62 additional semester hours. In effect, such students will be engaged in a 2 + 2 year program culminating in earning the B.S. degree.

ACCREDITATION

The Department of Industrial Technology is accredited by The National Association of Industrial Technology.

CAREER OPPORTUNITIES

Graduates of our Industrial Technology program have been among the most sought after alumni of our University in recent years and are employed in industrial and business positions in supervision, management, engineering and technical sales.



SUGGESTED CURRICULUM GUIDE FOR MAJORS IN INDUSTRIAL TECHNOLOGY

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Mathematics 111	4
*Physical Science 100	4
M. E. 101	3
I. T. 190 Intro. to Ind. Tech Construction	2
	16

<i>Second Semester</i>	Credit
English 101	3
Mathematics 112	4
Biological Science 100	4
102 Eng. Graphics	3
I. T. 191 Ind. Tech. Proc.	2
	16

Sophomore Year

<i>First Semester</i>	Credit
History 100	3
I. T. 293 Power Technology	3
*Drafting Electives	3
Technical Physics 211	4
Humanities 200	3
	16

<i>Second Semester</i>	Credit
History 101	3
I. T. 294 Electronics	3
Technical Physics 212	4
Humanities 201	3
Electives	3
	16

Junior Year

<i>First Semester</i>	Credit
Accounting 221	3
***B. A. 220, Bus Environ. or Ind. Educ. 263 Evol. and Org, of Industry	3
Econ. 305 Elem. Statistics	3
I. T. 491 Strength of Materials	3
****Technical Options	4
	16

<i>Second Semester</i>	Credit
Personal Hygiene 200	2
B. A. 422 Intro. to Mgt.	3
Math 240 Digital Computer	3
Speech Fundamentals 250	2
****Technical Options	4
Electives	3
	17

Senior Year

<i>First Semester</i>	Credit
***B. A. 481 Management Science or I. T. 592 Project Mgt.	3
I. T. 492 Communicating Tech. Spec.	2
I. T. 493 Ind. Plant Planning & Mgt.	2
Psychology 320	3
****Technical Options	4
	14

<i>Second Semester</i>	Credit
***B. A. 522 Personnel Mgt.	3
I. T. 593 Ind. Safety	3
****Technical Options	4
Electives	3
	13

* Chemistry 101 may be substituted for Physical Science.

** Drafting electives are determined by and listed with Technical Options.

NOTE: Military or Air Science may be used as electives.

*** The Business Courses listed in the junior and senior year are recommended. Other Business courses may be accepted on approval of Advisor.

**** Technical Electives must be from option block.

DIRECTORY OF FACULTY AND COURSES

Industrial Technology

Arlington W. Chisman, B.S., M.Ed.,
Virginia State University; Ph.D.,
The Ohio State University;
Professor and Chairperson

Robert Pyle, B.A., M.A., Trenton
State University; Ph.D., University
of Pittsburgh; Professor

Thomas Avery, B.S., Hampton In-
stitute; M.S., A & T State Univer-
sity; Assistant Professor

Marquis Cousins, B.S., M.S., A & T
State University; Assistant
Professor

Lewis Richards, B.S., Hampton In-
stitute; M.S., A & T State Univer-
sity; Assistant Professor

Russell Rankin, B.S., A & T State Uni-
versity; M.S., North Carolina State
University; Assistant Professor

Guy Loftin, B.A., A & T State Uni-
versity; M.S., A & T State Univer-
sity; Instructor

Yunus Chaudhry, B.S., Glasgow Uni-
versity; M.S., A & T State Univer-
sity; Instructor

James Boldman, B.S., Texas A & M
University; Adjunct Instructor

Adedamola G. Ekundayo, B.S.,
A&T State University; Instructor

Courses

190 Introduction to Industrial
Technology & Construction

191 Industrial Technology Processes

293 Power Technology

294 Electricity and Electronics

490 Human Relations

491 Mechanics of Materials

492 Communicating Technical Infor-
mation

493 Industrial Plant Planning &
Management

495 Dimensional Metrology Quality
Control

496 Electro-Mechanical Control
Systems

497 Co-Operative Training in In-
dustry I

498 Co-Operative Training in In-
dustry II

591 Industrial Economics

592 Project Management

593 Industrial Safety

596 Electro-Mechanical Control
Systems (Advanced)

599 Independent Study

NOTE: I. T. 497 or I. T. 498 may
be taken for technical
option credit.

Technical Options in Industrial Technology

Automotive

254 Automotive Fundamentals

255 Automotive Power Transmission

451 Automotive Instrumentation &
System Analysis

452 Automotive Service Management

Construction

215 Residential Construction

216 Commercial/Industrial Construc-
tion

217 Construction Estimating

412 Mechanical Systems for Building

413 Principles of Construction
Management

414 Methods in Plane Surveying

570 Environmental Controls, AC and
Heating Systems

Electronics

- 231 Electronic Comm. Circuits
- 234 Electronic Instrumentation
- 430 Industrial Electronics
- 431 Digital Logic Circuits
- 432 Microprocessor Applications
- 433 Video Electronics

Manufacturing

- 472 Manufacturing Processes—
Production I
- 473 Manufacturing Processes—
Production II
- 480 Mechanical Design and Manufac-
turing Problems
- 481 Manufacturing Processes
(Metallurgy)
- 570 Environmental Controls, A. C.
and Heating Systems
- 571 Commercial Refrigeration,
Heating, and Ventilation
- 576 Manufacturing-Production and
Operation Management

Industrial Technology Service Courses

- 210 Construction Technology
- 213 Wood Technology
- 233 Electrical Systems
- 251 Small Engine
- 252 Automotive Car and Engine Care
- 275 Fundamentals of Metal Joining I
- 276 Fundamentals of Metal Joining II
- 455 Auto Body Repairs and
Refinishing
- 456 Automobile Body Designs and
Repairs
- 470 Manufacturing Industries
- 471 Metal Technology

Advanced Undergraduate and Graduate

- 673 Advanced General Metals I
- 674 Advanced General Metals II
- 651 Power Industries and Technology
- 690 Special Problems in I.T.

For Graduates Only

- 735 Electricity-Electronics

*Course descriptions are available upon
request from the Dean of the School.*

TYPICAL 2-YEAR CURRICULUM IN INDUSTRIAL TECHNOLOGY FOR ASSOCIATE IN SCIENCE GRADUATES

NOTE: First two years of academic
credits earned at Technical
Institutes or Community
Colleges.

Junior Year

First Semester

*Physical Science 100	Credit
Soc. Science 100	4
**Technical Breadth Electives	3
Humanities 200	3
***B. A. 220	3
	16

Second Semester

Biological Science 100	Credit
101 Western Civi. I & II	4
Humanities 201	3
Math 240 Digital Computer	3
Econ. 305 Elementary Statistics	3
	16

Senior Year

First Semester

Accounting 221	Credit
***B. A. 422 Intro. to Management	3
I. T. 493 Ind. Plant Planning & Mgt.	3
I. T. 593 Ind. Safety	2
****I. T. Technical Option	3
Electives	4
	2
	17

Second Semester

***B. A. 481 Management Science	Credit
592 Project Mgt.	3
I. T. 492 Comm. Tech. Info.	3
I. T. 495 Dimensional Metrology	2
***B. A. 522 Personnel Mgt.	3
Electives	3
	2
	13

* Chemistry 101 may be substituted for
Physical Science.

** Technical Breadth elective is determined in
consultation with I. T. Departmental Advisor.

*** The Business courses listed are recom-
mended. Other business courses may be
acceptable on approval of Advisor.

**** To be selected from technical option in
consultation with Advisor.

Department of Safety and Driver Education

Isaac Barnett, Chairperson

OBJECTIVES

The objectives of the Safety and Driver Education program and the Occupational Safety and Health program are to prepare qualified individuals as safety and driver education teachers, safety supervisors for school districts, state and federal safety personnel, research personnel and safety personnel in industry.

The programs are responsive to regulatory efforts of the state and federal government in preparing safety specialists to cope with the hazards produced in part by the scientific and technological advancements.

DEGREES OFFERED

Safety and Driver Education—B.S.
Occupational Safety and Health—
B.S.

*Safety and Driver Education—
M.S.

GENERAL PROGRAM REQUIREMENTS

The admission of students to the undergraduate degree programs in Safety and Driver Education and Occupational Safety and Health is based upon the general admission requirements of the University.

Safety and Driver Education is a competency based program. Consequently, individual programs are designed in consultation with the Department.

* See the Bulletin of the Graduate School

DEPARTMENTAL REQUIREMENTS

Safety & Driver Education

Safety and Driver Education—The major in Safety and Driver Education must complete 124 semester hours of University courses. Included in the 124 semester hours are thirty-three hours of Safety and Driver Education courses at the 200 level or above. A minimum grade of "C" must be achieved in these courses.

Occupational Safety and Health

The major in Occupational Safety and Health must complete a minimum of 129 semester hours of University courses. Included in these 129 semester hours are forty-six semester hours of Occupational Safety and Health courses at the 200 level or above. A minimum grade of "C" must be achieved in these courses.

ACCREDITATION

All Teacher Education Programs are accredited by the National Council for Accreditation of Teacher Education and approved by the North Carolina State Department of Public Instruction.

CAREER OPPORTUNITIES

Many career opportunities are available for those competent in the Safety and Driver Education and Occupational Safety and Health fields. Some of the many career opportunities are in: teaching, safety management, municipal agencies, state agencies, federal agencies, industry, and research.

CURRICULUM FOR A MAJOR IN SAFETY AND DRIVER EDUCATION

Bachelor of Science

Freshman Year

<i>First Semester</i>	Credit
History 100	3
Math 111	4
Bio. Sci. 100	4
Phy. Ed. Elective	1
English 100	3
Elective	2
	<u>17</u>

Second Semester

History 101	3
Math 112	4
Education 100	1
Phy. Ed. Elective	1
English 101	3
Elective	3
	<u>15</u>

Sophomore Year

<i>First Semester</i>	Credit
Safety & Driver Educ. 254	3
Phy. Sci. 100	4
Education 300	2
Psychology 320	3
Humanities 200	3
Elective	2
	<u>17</u>

Second Semester

Safety & Driver Educ. 353	3
Physics 201	3
Education 301	2
Speech 250	2
Humanities 201	3
Elective	2
	<u>17</u>

Junior Year

<i>First Semester</i>	Credit
Safety & Driver Educ. 356	3
Safety & Driver Educ. 455	3
Safety & Driver Educ. 557	3
Economics 301	3
Sociology 100	3
Education 400	3
	<u>18</u>

Second Semester

Safety & Driver Educ. 454	3
Safety & Driver Educ. 456	3
Safety & Driver Educ. 558	3
Education 436	3
Industrial Technology 231	3
Elective	2
	<u>17</u>

Senior Year

<i>First Semester</i>	Credit
Safety & Driver Educ. 655	3
Safety & Driver Educ. 658	3
Education Media 611	3
Elective	3
	<u>12</u>
<i>Second Semester</i>	Credit
Safety & Driver Educ. 561	3
Education 500	3
Education 560	6
Education 624	3
	<u>15</u>

Credit

CURRICULUM FOR A MAJOR IN OCCUPATIONAL SAFETY AND HEALTH

Bachelor of Science

Freshman Year

<i>First Semester</i>	Credit
English 100	3
Math 111	4
Chemistry 106	4
OSH 211	2
Phy. Ed. 101	1
Mechanical Engineering 101	3
	<u>17</u>

Second Semester

English 101	3
Math 112	3
History 101	3
Chemistry 107	4
OSH 212	2
Mechanical Engineering 102	3
	<hr/>
	18

Sophomore Year

<i>First Semester</i>	Credit
Humanities 200	3
OSH 311	2
Physics 211	4
Chemistry 221	4
Psychology 320	3
	<u>16</u>

Second Semester

Humanities 201	3
OSH 312	3
Physics 212	4
Psychology 322	3
English 331	3
Elective	2
	<hr/>
	18

Junior Year

<i>First Semester</i>	Credit
Economics 301 (Macro)	3
Mechanical Engineering 200	3
Zoology 160	4
Bus. Adm. 422	3
OSH 413	3
	<u>16</u>

Second Semester

Bus. Admn. 461	3
Zoology 461	4
OSH 414	2
OSH 415	3
OSH 416	3
	<hr/>
	15

Summer

OSH 501 3-6

Senior Year*First Semester*

	Credit
OSH 411	3
OSH 511	2
OSH 512	2
OSH 513	2
OSH 514	2
Elective	3
	14

Second Semester

	Credit
OSH 515	3
OSH 516	3
OSH 517	3
Elective	3
	12

**DIRECTORY OF FACULTY
AND COURSES**

Isaac Barnett, B.S., M.S., North Carolina A&T State University; Ed.D., Michigan State University; Professor and Chairperson

Nancy G. Hinckley, B.S., Trenton State College; M.S., Ph.D., Michigan State University; Assistant Professor

Horlin Carter, B.S., M.S., Marshall University; Ph.D., Michigan State University; Assistant Professor

Courses

254 Basic Safety and Driver Education

353 Techniques of Laboratory Instruction

356 Behavioral Aspects of Accident Prevention

454 First Aid and Emergency Care of the Injured

455 Legal Aspects in Safety Education

456 Alcohol and Drugs—In Safety and Driver Education

557 Police and Traffic Court Administration

558 Introduction to Highway Traffic Administration

561 Methods of Teaching Safety and Driver Education

651 Driver Ed. and Teacher Training

652 Advanced Driver Education and Teacher Training

653 Driver Education and General Safety

654 Highway and Transportation Systems

655 Automotive and Technology for Safety and Driver Education

656 Highway Traffic Administration

657 Traffic Engineering in Safety and Driver Education

658 Curricula Integration and Safety Education

659 Motorcycle Safety Education

211 Introduction to Industrial Processes

212 Introduction to Occupational Safety & Health

311 General Concepts in Occupational Safety and Health

312 Air Quality for the Safety Professional

411 Hazardous Materials for the Safety Professional

413 Industrial Hygiene I

414 Flammable Materials for the Safety Professional

415 Mechanical and Electrical Systems for the Safety Professional

416 Industrial Hygiene II

501 Internship

511 Education/Training Methods for the Safety Professional

512 Facilities for the Safety Professional

513 Human Factors

514 Industrial Relations

515 Evaluation and Control Methods in Occupational Safety and Health for the Safety Professional

516 Management Techniques in Occupational Safety and Health for the Safety Professional

517 Material Handling for the Safety Professional

Course descriptions are available upon request from the Dean of the School.



SCHOOL OF ENGINEERING

Suresh Chandra, Dean
William J. Craft, Associate Dean

The School of Engineering grants bachelor of science degrees in architectural, electrical, industrial, and mechanical engineering. The programs in architectural, electrical, industrial, and mechanical engineering are accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET).

The School offers the Master of Science degree in Engineering, Electrical Engineering, Industrial Engineering and Mechanical Engineering.

The curricula offerings include a five-year program in architectural engineering and four-year programs in each of the other undergraduate engineering disciplines.

The programs of study are aimed toward preparing a student for engineering practice in all phases of his chosen field. The specific objectives of the School of Engineering are:

1. To prepare the student for an active career in his chosen discipline within the profession.
2. To provide a comprehensive background in all phases of the engineering design process, namely: conception, planning, synthesis, analysis, design, and management.
3. To provide a basic knowledge of the mathematical and natural sciences upon which the practice of professional engineering depends.
4. To develop the judgment the engineer requires to utilize effectively, and economically, the materials and forces of nature for the benefit of mankind.
5. To encourage the student to develop an appreciation for the process of continuing education.
6. To develop the intellectual, professional, and social characteristics of the student in such a manner as to enable him to become a responsible leader in his community.

ADMISSION AND MATRICULATION POLICIES

I. Admission Policy

In addition to the standing University admission policy on freshmen, students who plan to major in engineering must have two units of Algebra, one unit of plane geometry, and one-half unit of trigonometry.*

II. Matriculation Policy

1. All engineering students must meet certain prerequisites prior to beginning sophomore level engineering courses required in their chosen major. They must:
 - a. Attain a grade of "C" or better in Math 131.
 - b. Attain a grade of "C" or better in English 100 and English 101.
 - c. Attain a grade of "C" or better in each of the Freshman courses bearing the departmental or major prefix.
2. Students not meeting requirements for sophomore engineering course eligibility shall be given individual counsel in selecting one of the following options:
 - a. Change major.
 - b. Continue in current status, with a reduced number of credit hours per semester, and/or repeat key courses in math, freshman engineering, etc., before beginning sophomore engineering courses.
 - c. Change major department within the School of Engineering and continue to attempt to fulfill sophomore engineering course eligibility.
3. Individual advice and counseling for students deficient after the freshman year shall be provided by the student's host department.

* Students entering with a deficiency in mathematics or who score low on the Mathematics Placement Examination must begin with Pre-Engineering Mathematics which is not counted towards the required semester hours for graduation. In this case the normal mathematics sequence is shifted one semester.

COOPERATIVE EDUCATION PROGRAM

A cooperative program, in which students may earn a major portion of

their educational expenses through a work-study arrangement with industry, is available to students with satisfactory scholastic records.

After satisfactory completion of at least two semesters in the freshman year, students in engineering, mathematics or physics may alternate semesters in industry with semesters at the University until their senior year. They then remain at the University until graduation. This arrangement enables the student to receive two years of work experience and at the same time earn educational expenses.

REQUIRED SENIOR EXAMINATION

In concert with our faculty's wish to improve the quality of education for our graduates, a senior examination was established in September 1980; it became a graduation requirement in February 1982. An Engineering student should take the senior examination during the first semester of the senior year.

The examination is given each fall semester for May or summer graduates. It is also given each spring semester for December graduates. Usual examination dates are: for the fall test, a Saturday in late October or early November, and for the spring test, a Saturday in early to mid-April. The test date will be posted and announced in class early each semester. After each examination, a list of attendees will be transmitted to the Director of Registration and Records, for inclusion in student files.

Specifically, the senior examination is expected to complement the current educational experiences of our graduates and to help the School monitor its program quality. It will provide each student with a preview of the type of objective test that must be passed by those wishing to become registered engineers and sit for the Engineer-in-Training (EIT) or Fundamentals Examination (FE). Our examination will also help our students by providing our department chairman with key data in determining areas of the curricula in which change is warranted.

Department of Architectural Engineering

William A. Streat, Jr., Chairperson

OBJECTIVES

It is the aim of the program in architectural engineering to encourage and develop students, who exhibit creative ability and who exhibit the ability to grasp and use scientific principles, for professional careers in the art and science of building. Strong emphasis is placed on training in the building sciences and on training in engineering as it applies to the design and construction of buildings. Training provided through exposure and involvement with research projects and investigations directed by the architectural engineering faculty is encouraged.

The architectural engineering program provides considerable training in general education which is devoted to study of social and physical sciences, art, English, mathematics and the humanities. Introductory courses in architectural engineering and a large percentage of the required general education courses are scheduled in the freshman and sophomore years. This training, during the first and second years, provides background for the study of basic engineering science and the study of more professional courses which are scheduled later in the program. Instruction within the department of architectural engineering is organized under four divisions.

1. Graphics, Architectural Design and Architectural History
2. Environmental Control, Electrical and Mechanical Equipment of Buildings
3. Professional Practice, Management, Materials & Methods of Construction
4. Structures

Each of these divisions has specific course requirements that are aimed toward the development of the architectural engineering student, so that he will be able to take his place in

society as a professional in the field of engineering.

The five year program in architectural engineering leads to the bachelor of science degree and is fully accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET).

DEGREE OFFERED

Architectural Engineering—B.S.
Engineering-Structures
Concentration—M.S.E.*

* See Graduate School Bulletin

DEPARTMENT DEGREE REQUIREMENTS

See School of Engineering Undergraduate Admission policy statement. For Graduate degree admission requirements see the Graduate School Bulletin.

DEPARTMENTAL REQUIREMENTS

The major in architectural engineering must complete 160 semester hours of University courses. Included in the 160 semester hours are 9 semester hours of architectural engineering courses selected from one of three optional blocks—Structures, Architectural Design and Planning, or Environmental Systems. A minimum cumulative grade point average of 2.00 for all architectural engineering courses completed, and a minimum cumulative grade point average of 2.00 for all courses taken at the University are required for graduation.

ACCREDITATION

The five year program in architectural engineering is accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET).

CAREER OPPORTUNITIES

Completion of the architectural engineering program provides training for a career in the profession of engineering as related to the planning, design and construction of buildings. Training in architectural engineering prepares graduates to pursue a goal of professional practice or business. Graduates are employed in offices of professional engineers engaged in building systems design

which include the design of structural, mechanical and electrical systems for buildings. Graduates are employed in the offices of professional architects engaged in planning and in the architectural design of buildings. Architectural engineering graduates have an opportunity for a career with construction firms and building materials manufacturers where there exist various positions that utilize architectural engineering training.

SUGGESTED CURRICULUM GUIDE FOR A MAJOR IN ARCHITECTURAL ENGINEERING

Freshman Year

First Semester

Dept. No.	Course	Cr.
Math 131	Calculus I	4
Eng 100	Ideas and Expressions I	3
Hist 100	World Civilization I	3
AE 111	Arch Engrg Comm	2
Chem 101	Gen Chemistry I	3
Chem 111	Gen Chemistry I Lab	1
		<u>16</u>

Second Semester

Dept. No.	Course	Cr.
AE 221	Arch Graphics and Comm I	3
Eng 101	Ideas and Expressions II	3
Hist 101	World Civilization II	3
Phys 309	Elements of Physical Geology	3
Math 132	Calculus II	4
		<u>16</u>

Sophomore Year

First Semester

Dept. No.	Course	Cr.
AE 222	Arch Graphics and Comm II	3
Math 231	Calculus III	4
AE 211	Computer Aided Analysis	2
Phys 221	Gen Physics I	3
Phys 231	Gen Physics I Lab	2
Math 350	Linear Algebra and Matrix Theory I	3
		<u>17</u>

Second Semester

Dept. No.	Course	Cr.
AE 223	Heating, Ventilation and Air Conditioning for Bldgs I	3
ME 335	Mechanics I, Statics	3
Phys 222	Gen Physics II	3
Math 331	Intro Applied Math I	3
Phys 232	Gen Physics II Lab	2
AE 225	Bldgs Sanitation & Fire Protection	2
		<u>16</u>



Junior Year

Lower Junior

First Semester

Dept. No.	Course	Cr.
AE 331	Arch Design II	3
AE 336	Mat and Meth of Arch Constr I	2
AE 333	History of Arch I	3
EE 441	Basic EE I	3
EE 447	Basic EE II	1
ME 336	Strength of Materials	3
ME 346	Material Testing Lab	1
		<u>16</u>

Second Semester

Dept. No.	Course	Cr.
AE 332	Arch Design II	3
AE 337	Mat and Meth of Arch Constr II	2
AE 334	History of Arch II	3
ME 300	Plane Surveying	2
ME 337	Mechanics II, Dynamics	3
AE 339	Electrical Systems for Bldgs I	3
		<u>16</u>

Upper Junior

First Semester

Dept. No.	Course	Cr.
AE 454	Reinforced Concrete Theory I	3
AE 456	Theory of Structures I	3
AE 451	Architectural Design IV	3
ME 441	Thermodynamics I	3
	Elective (Free)	3
		<u>15</u>

Second Semester

Dept. No.	Course	Cr.
AE 455	Reinforced Concrete Theory II	2
AE 457	Theory of Structures II	3
AE 458	Production Drawings	3
Econ 301	Principles of Economics, Macro	3
	Optional Block	3
ME 416	Fluid Mechanics	3
		<u>17</u>

Senior Year

First Semester

Dept. No.	Course	Cr.
AE 561	Structures I	3
AE 563	Statically Indet Structures	3
AE 565	Professional Practice	2
	Elective (Free)	3
	Optional Block	3
Elective (Humanities)		3
		<u>17</u>

Second Semester

Dept. No.	Course	Cr.
AE 562	Structures II	3
AE 564	Foundation and Soil Structures	3
IE 460	Engrg Economic Analysis	2
	Elective (Free)	3
	Optional Block	3
		<u>14</u>

Total Hours—160

OPTIONAL BLOCK

STRUCTURES

Dept. No.	Course	Cr.
AE 459	Photo-Elastic Stress Analysis	2
AE 551	Finite Element Analysis	3
AE 569	Experimental Structural Analysis	3
400.652	Theory of Plates and Shells	3
400.644	Matrix Analysis of Structures	3

ENVIRONMENTAL SYSTEMS

Dept. No.	Course	Cr.
AE 568	Heating, Ventilation and Air Conditioning for Bldgs II	3
AE 448	Architectural Acoustics	3
AE 449	Electrical Systems for Bldgs II	3
AE 571	Heating, Ventilating and Air Conditioning For Buildings II	3
AE 572	Solar Energy Building System Design	3

ARCHITECTURAL DESIGN AND PLANNING

Dept. No.	Course	Dept.	Cr.
AE 452	Architectural Design IV		4
AE 566	City Planning and Urban Design I		4
AE 453	History of Architecture III		3
AE 567	City Planning and Urban Design II		5

The completion of at least nine semester hours from one of the optional block concentrations is required.

FRESHMAN	32
SOPHOMORE	33
LOWER JUNIOR	32
UPPER JUNIOR	32
SENIOR	31
	160

DIRECTORY OF FACULTY AND COURSES

Architectural Engineering Department

W. A. Streat, Jr., B.S., Hampton Institute; B.S., University of Illinois; S.M., Massachusetts Institute of Technology; Professor and Chairperson

Elias G. Abu-Saba, B.S.M.E., American University of Beirut; M.S.C.E., Virginia Polytechnic Institute; Ph.D., Virginia Polytechnic Institute; Associate Professor

Reginald C. Whitsett, B.S., North Carolina A&T State University; M.S., North Carolina State University; Associate Professor

Harmohindar Singh, P.E., B.Sc., Punjab University; M.Sc., Punjab University; M.S., Wayne State University; Ph.D., Wayne State University; Associate Professor

Ronnie S. Bailey, B.A., Howard University; M.U.P., University of Wisconsin; Assistant Professor

Henry B. Cole, Jr., B.S., North Carolina A&T State University; M.Sc., University of Kansas; Assistant Professor

Walter E. Blue, Jr., B.S., North Carolina State University; Adjunct Assistant Professor

Jaw Wing Chow, B.S. North Carolina A&T State University; M.Arch., Virginia Polytechnic Institute and State University; Adjunct Assistant Professor

Courses

- 111 Architectural Engineering Communications
- 211 Computer Aided Analysis and Design
- 221 Architectural Graphics and Communications I
- 222 Architectural Graphics and Communications II

- 223 Heating, Ventilation and Air Conditioning for Bldgs I
- 224 Architectural Engineering Projects
- 225 Building Sanitation and Fire Protection
- 331 Architectural Design I
- 332 Architectural Design II
- 333 History of Architecture I
- 334 History of Architecture II
- 335 Structural Systems I
- 336 Materials & Methods of Architectural Construction I
- 337 Materials & Methods of Architectural Construction II
- 339 Electrical Systems for Buildings I
- 448 Architectural Acoustics
- 449 Electrical Systems for Buildings II
- 451 Architectural Design III
- 452 Architectural Design IV
- 453 History of Architecture III
- 454 Reinforced Concrete Theory I
- 455 Reinforced Concrete Theory II
- 456 Theory of Structures I
- 457 Theory of Structures II
- 458 Production Drawings
- 459 Photo-Elastic Stress Analysis
- 551 Finite Element Analysis
- 561 Structures I
- 562 Structures II
- 563 Statically Indeterminate Structures
- 564 Foundation and Soil Structures
- 565 Professional Practice
- 566 City Planning and Urban Design I
- 567 City Planning and Urban Design II
- 568 Heating, Ventilation and Air Conditioning for Building II
- 569 Experimental Structural Analysis
- 571 Heating, Ventilating and Air Conditioning for Buildings III
- 572 Solar Energy Systems Design

Course descriptions are available upon request from the Dean of the School

Department of Electrical Engineering

Samuel G. White, Jr.
Chairperson

OBJECTIVES

The objectives of the Department of Electrical Engineering are to provide the opportunity for its students to acquire the educational background necessary to pursue professional careers in electrical engineering or to continue their education toward advanced degrees. The primary purpose of the department is to teach technical arts and sciences related to the field of electrical and computer engineering.

DEGREE OFFERED

Electrical Engineering—B.S.
*Electrical Engineering—M.S.

** See the Graduate School Bulletin.*

GENERAL PROGRAM REQUIREMENTS

The admission of students to the B.S. degree program in Electrical Engineering is based upon the general admission requirements of the University. In addition, two units of algebra, one unit of plane geometry and one half unit of trigonometry are required.

The requirements for unconditional admission to the M.S. degree program in Electrical Engineering are an undergraduate engineering degree from an ABET accredited program with a minimum overall average of 3.0 (See Graduate School Bulletin for more details.)

DEPARTMENT DEGREE REQUIREMENTS

Electrical Engineering Major (B.S. degree)—The major in electrical engineering must complete a minimum of 130 credit hours for the Bachelor of

Science Degree. Included in the 130 semester hours are 41 hours of electrical engineering, 9 hours of mechanical engineering, 2 hours of industrial engineering, 6 hours of advanced engineering electives, 21 hours of mathematics; 20 hours of basic sciences and 24 hours of social sciences and humanities. A minimum grade of "C" must be achieved in all electrical engineering courses.

ACCREDITATION

The Electrical Engineering Program is accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET).

CAREER OPPORTUNITIES

A degree in this field prepares a student for careers in Computer Engineering, Engineering Design, Electronics, Communications, Power Engineering and Signal Processing, or for graduate study in electrical or computer engineering.

SUGGESTED CURRICULUM GUIDE FOR A MAJOR IN ELECTRICAL ENGINEERING

Bachelor of Science

Freshman Year

<i>First Semester</i>	Credit
Engl 100 Fresh Comp I	3
Math 131 Calculus I	4
EE 100 Interface EE I	2
EE 106 Intf. EE I Lab	2
Soc. Sci. Elective	6
	17

<i>Second Semester</i>	Credit
Engl 101 Fresh Comp II	3
Math 132 Calculus II	4
Phys 221 Gen Phys I	3
Phys 231 Gen Phys I Lab	2
EE 101 Interface EE II	2
EE 107 Intf. EE II Lab	1
	15

Sophomore Year

<i>First Semester</i>	Credit
Math 231 Calculus III	4
Phys 222 Gen Phys II	3
Phys 232 Gen Phys Lab II	2
EE 200 E Ckt Anal I	3
EE 206 E Ckt Anal I Lab	1
ME 335 Mech I, Statics	3
	16

<i>Second Semester</i>	Credit
Math 331 Intro Appl Math	3
Chem 101 Gen Chem I	3
Chem 111 Gen Chem I Lab	1
EE 300 E Ckt Anal II	3
EE 306 E Ckt Anal II Lab	1
EE 320 Electronics I	3
EE 326 Elec. Lab	1
	15

Junior Year

<i>First Semester</i>	Credit
Math 332 Intro Appl Math II	3
EE 460 Electronics II	3
EE 466 Electronics II Lab	1
EE 325 Prin EM Waves	3
ME 337 Mech II, Dynamics	3
Phys 406 Mod Physics	3
	16

<i>Second Semester</i>	Credit
EE 470 Prop of Mat	3
EE 427 Intro to Logic	3
EE 433 Intro to Logic Lab	1
EE 400 Sig Anal & Proc	3
History Elec.	3
Advance Math Elec.	3
Free Electives	1
	17

Senior Year

<i>First Semester</i>	Credit
EE 430 Power Systems	3
EE 436 Power Systems Lab	1
ME 416 Fluid Mechanics	3
ME 441 Thermo I	3
Basic Science Elec	3
Social Science Elec	3
Adv Eng Lab	2
	18

<i>Second Semester</i>	Credit
Advanced Engr. Electives	6
Social Sci Elective	6
Free Electives	4
	16

Total hours 130

DIRECTORY OF FACULTY AND COURSES

Electrical Engineering

Ali Abul-Fadl, B.S., M.S., Ph.D., University of Idaho; Associate Professor
M. Hashem Anwari, B.S., Tri-State University; M.S., North Carolina A & T State University; Adjunct Instructor
Ward J. Collis, B.S., M.S., Northwestern University; Ph.D., Ohio State University; Associate Professor

Shanthi Iyer, B.S., M.S., Delhi University; Ph.D., Indian Institute of Technology; Adjunct Assistant Professor
Elham Makram, B.Sc., Assiut University; M.S., Ph.D., Iowa State University; Assistant Professor
Harold L. Martin, B.S., M.S., North Carolina A & T State University; Ph.D., Virginia Polytechnic Institute and State University; Associate Professor (PE)
David Olson, B.S., M.E., Michigan Technological University; Ph.D., University of Utah; Associate Professor
Earnest E. Sherrod, B.S., North Carolina A & T State University; M.S., Newark College of Engineering; Assistant Professor
Elias K. Stefanakos, B.S., M.S., Ph.D., Washington State University; Professor
Samuel G. White, Jr., B.S., M.S., Tuskegee Institute; Ph.D., University of Illinois; Associate Professor and Chairperson
Leo Williams, Jr., B.S., M.S., University of Illinois; Professor (PE)
Chung Yu, B.Eng., McGill University; M.S., Ph.D., Ohio State University; Professor

List of Courses

100 Interface to Electrical Engineering I
106 Computational Methods in Engineering Laboratory
101 Interface to Electrical Engineering II
107 Interface to Electrical Engineering II Laboratory
200 Electric Circuit Analysis
206 Electric Circuit Analysis Laboratory
300 Electric Circuit Analysis and Synthesis
306 Electric Circuit Analysis and Synthesis Laboratory
320 Electronics I
326 Electronics I Laboratory
325 Principles of Electromagnetic Waves
400 Signals: Analysis and Processing
427 Introduction to Logic Design
433 Introduction to Logic Design Laboratory
430 Power Systems, Energy Conversion and Electric Machinery
436 Power Systems, Energy Conversion and Electric Machinery Laboratory
441 Basic Electrical Engineering I

- 447 Basic Electrical Engineering I Laboratory
- 442 Basic Electrical Engineering II
- 447 Basic Electrical Engineering II Laboratory
- 450 Electromagnetic Radiation and Microwave Theory
- 460 Electronics II
- 466 Electronics II Laboratory
- 470 Properties of Materials for Electrical Engineering

Undergraduate/Graduate Courses

- 602 Semiconductor Theory & Devices
- 614 Integrated Circuit Fabrication Methods
- 615 Silicon Device Fabrication Laboratory
- 616 Introduction to Microprocessors
- 617 Microprocessor Hardware Design
- 627 Switching Theory
- 629 VLSI Design
- 633 Digital Electronics
- 636 Computer Methods in Power Systems
- 637 Power Systems Analysis I
- 638 Power Systems Analysis II
- 642 Solid State Energy Conversion
- 649 Modulation Theory and Communication Systems
- 650 Digital Signal Processing
- 656 Probability and Random Processing
- 660 Selected Topics in Engineering
- 666 Special Topics
- 668 Automatic Control Theory
- 672 Analog Electronics
- 674 Network Synthesis
- 678 Projects in Electronic Network and Systems

Graduate Courses

- 705 Solid State Devices
- 707 Physical Tensor Properties of Crystals
- 746 Electromagnetic Wave Theory
- 760 Theory of Linear Systems
- 762 Network Matrices and Graphs
- 706 Solid State Technology Lab Techniques
- 748 Statistical Communication Theory
- 750 Digital Signal Processing II
- 729 Theory and Design of Digital Systems
- 777 Thesis
- 789 Special Topics

Course descriptions are available upon request from the Dean of the School.

Department of Industrial Engineering

Arup K. Mallik, Chairperson

OBJECTIVES

The main objective of the Industrial Engineering Department is to provide quality education programs leading to the Bachelor's and Master's degrees. Our curriculum is designed to educate

professional engineers needed to fill technical and/or managerial positions in manufacturing and service industries, government and private practice.

The Department of Industrial Engineering offers a program of study which emphasizes a solid general engineering and humanistic background. To this background major courses in Industrial Engineering are added which integrate the use of the computer to aid in the solution of problems. Another major factor in Industrial Engineering is to blend the human element into the total system. The curriculum focuses more attention on the man-machine interface than other engineering fields. Additionally, principles of business, economics and accounting are blended into the curriculum to provide a base for our graduates to progress into management.

The American Institute of Industrial Engineers defines the field as follows:

Industrial engineering is concerned with the design, improvement, and installation of integrated systems of people, materials, equipment and systems. It draws upon specialized knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design to specify, predict, and evaluate the results to be obtained from such systems.

DEGREES OFFERED

- Industrial Engineering—B.S.I.E.
- *Industrial Engineering—M.S.I.E.
- *Engineering—Industrial Engineering Concentration—MSE

** See the Graduate School Bulletin.*

GENERAL PROGRAM REQUIREMENTS

See School of Engineering Undergraduate Admission policy statement. For graduate degree admission requirements see the Graduate School Bulletin.

DEPARTMENTAL REQUIREMENTS

A total of 128 semester hours credit are required for graduation. There are 100 hours of specific required courses.



Additionally, there are 12 hours of humanities electives, 3 hours of engineering design electives, 9 hours of technical electives and 4 hours of free electives. Course substitutions for the 100 hours of specific required courses must be approved by the students' advisor and department chairman.

ACCREDITATION

The Industrial Engineering Program is accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET).

CAREER OPPORTUNITIES

Industrial Engineering is one of the major engineering demand fields in the United States. Of all engineering fields, industrial engineering represents the engineering field with the greatest unmet need. At present, the number of industrial engineering graduates produced each year represents one-third of the demand for industrial engineering graduates nationally. Starting salaries for industrial engineers are equal to those of the other leading starting salary careers of electrical, mechanical and chemical engineering. Because of the education industrial engineers receive and the type of experience they gain in industry, they very often switch to management careers five to ten years following graduation. Industrial Engineering and the MBA (i.e., Masters of Business Administration) are generally considered to be the two best preparations for an individual interested in pursuing a management career in an organization. Because of the volume of manufacturing and service organizations in North Carolina, and surrounding states as well, there is a considerable demand for industrial engineers.

SUGGESTED CURRICULUM GUIDE FOR A MAJOR IN INDUSTRIAL ENGINEERING

Freshman Year

First Semester

Dept. No.	Course	Cr.
Eng	100 Comp I	3
IE	101 Interface to IE Lecture	2
IE	102 Interface to IE Lab	3
Math	131 Calculus I	4
ME	103 Graphics	2
	Humanities Elective	3
		17

Second Semester

Dept. No.	Course	Cr.
Eng	101 Comp II	3
Math	132 Calculus II	4
IE	150 Intr to IE	3
IE	210 Comp Mthds in Engr.	2
Chem	101 Gen Chem I	3
Chem	111 Gen Chem I Lab	1
		16

Sophomore Year

First Semester

Dept. No.	Course	Cr.
Phys	221 Gen Phys I	3
Phys	231 Gen Phys I Lab	2
Math	231 Calculus III	4
IE	320 Engr Stat	3
Econ	300 Micro Econ	3
		15

Second Semester

Dept. No.	Course	Cr.
Phys	222 Gen Phys II	3
Phys	232 Gen Phys II Lab	2
ME	360 Matl Sci	3
IE	410 Mthds Engr	3
Acct	221 Acct I	3
ME	226 Mfg Processes	2
ME	236 Mfg Processes Lab	1
		17

Junior Year

First Semester

Dept. No.	Course	Cr.
ME	335 Statics	3
IE	480 Oper Res I	3
IE	465 Engr Economy	3
IE	510 Qual Contr	3
EE	441 Elec Engr I	4
EE	447 Elec Engr I Lab	1
		16

Second Semester

Dept. No.	Course	Cr.
IE	530 Production Planning & Control	4
ME	336 Strength of Materials	3
EE	442 Elec Engr II	4
EE	448 Elec Engr II Lab	3
Math	624 Meth of Appl Stat	3
	Humanities	3
		17

Senior Year

First Semester

Dept. No.	Course	Cr.
IE	550 Facilities Planning & Design	3
Econ	301 Macro Econ	3
ME	337 Dynamics	3
	Humanities	3
	Tech Elec	3
		15

Second Semester

Dept. No.	Course	Cr.
IE	555 Design Projects in IE	3
	Tech Elec	6
	Free Elec	4
	Humanities	3
		16

DIRECTORY OF FACULTY AND COURSES

Industrial Engineering

Arup K. Mallik, B.S. (M.E.), Jadavpur University; M.S., Ph.D., North Carolina State University; Professional Engineer, Professor
 Babur Mustafa Pulat, B.S., M.S., Middle East Technical University; Ph.D., North Carolina State University; Associate Professor
 Mohammed Fazle Rabbi, B.S., Bangladesh University; M.S., Purdue University; Ph.D., Arizona State University; Associate Professor
 Pakize Simin Pulat, B.S., Middle East Technical University; M.S., North Carolina State University; Assistant Professor
 Eui H. Park, B.S., Yonsei University; M.S., Ph.D., Mississippi State University; Assistant Professor
 Sanjiv Sarin, B.Tech., M.Tech., Indian Institute of Technology; Ph.D., State University of New York at Buffalo; Assistant Professor
 Balasubramanian Ram, B.Tech., M.Tech., Indian Institute of Technology; Ph.D., State University of New York at Buffalo; Assistant Professor

List of Courses

Undergraduate

101 Interface to Industrial Engineering
 102 Computer Programming for IE
 150 Introduction to Industrial Engineering
 210 Computational Methods in Engineering
 320 Engineering Statistics
 410 Methods Engineering

Undergraduate/Graduate Courses

465 Engineering Economic Analysis
 460 Engineering Economy
 480 Operations Research I
 510 Quality Control
 530 Production Control
 550 Facilities Planning and Design
 555 Design Projects in Industrial Engineering
 615 Industrial Simulation
 626 Systems Analysis and Design
 640 Intermediate Engineering Economy
 649 A Survey of Operations Research Methodologies
 650 Operations Research

- 658 Project Management and Scheduling
- 660 Selected Topics in Engineering
- 662 Reliability
- 664 Safety Engineering
- 665 Man Machine Systems
- 666 Special Projects
- 678 Engineering Management

Graduate Courses

- 712 Work Measurement Theory
- 716 Applied Regression Analysis
- 718 Advanced Quality Control
- 730 Industrial Dynamics
- 733 Operations Research II
- 749 Inventory Systems Analysis and Design
- 777 Thesis
- 778 Research
- 789 Special Topics

Course descriptions are available upon request from the Dean of the School.

UNDERGRADUATE CURRICULUM ELECTIVES LIST

1. Technical Electives:

All School of Engineering courses numbered 300 to 599 for which the student qualifies, and IE courses at 600 level with advisor's approval. The following Industrial Engineering courses are recommended: IE 615, 626, 640, 650, 658, 660, 662, 664, 665, 666 and 678.

2. Free Electives:

Any course taught at NC A & T for which the student qualifies and which is a non-remedial course for engineering students. Courses specifically omitted are Math 110 and ROTC.

3. Humanities and Social Science elective courses listed do not include basic language or speech courses which are specifically prohibited by ABET.

Any Industrial Engineering student may propose to the Chairman of the Department of Industrial Engineering any course not listed for consideration in meeting an elective requirement of the Undergraduate Industrial Engineering Curriculum.

- 4. Humanities and Social Science Electives: See departmental requirements.

Department of Mechanical Engineering

Tony C. Min, Chairperson

OBJECTIVES

The Department of Mechanical Engineering seeks to prepare students with a comprehensive background in mathematics, the physical and social sciences and the humanities in addition to a thorough grounding in engineering fundamentals and mechanical engineering specialties. These graduates should be competent in the engineering techniques related to the planning, design, analysis and synthesis required in the implementation of mechanical engineering projects.

DEGREES OFFERED

- Mechanical Engineering—B.S.M.E.
- *Mechanical Engineering—M.S.M.E.
- *Engineering—Mechanical Engineering Concentration—M.S.E.

** See the Graduate School Bulletin*

GENERAL PROGRAM REQUIREMENTS

See School of Engineering Undergraduate Admission policy statement. For Graduate degree admission requirements see the Graduate School Bulletin.

DEPARTMENTAL REQUIREMENTS

The Mechanical Engineering Major must complete 130 credit hours following the approved depart-

mental curriculum. At the beginning of the senior year the student must specify one of the three major option blocks, i.e. energy conversion, machine design, manufacturing and materials, from which he must choose at least 6 of the 9 required technical elective credit hours.

A minimum grade of "C" must be achieved in all mechanical engineering courses.

ACCREDITATION

The Mechanical Engineering Program is fully accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET).

CAREER OPPORTUNITIES

The Mechanical Engineering Program is to provide the students with quality education that will allow immediate entry into industry, government, private practice or graduate work. By far the largest proportion of graduates take jobs with private industry. Such jobs can be classified under the following general headings: Design, Testing, Development, Production, Research, Technical Marketing, Technical Management and Sales. Career opportunities are possibly the most diverse of any engineering discipline.

SUGGESTED CURRICULUM GUIDE FOR A MAJOR IN MECHANICAL ENGINEERING

Freshman Year

First Semester

Dept. No.	Course	Cr.
Eng 100	Ideas and Expressions I	3
Hist 100	World Civilization I	3
Math 131	Calculus I	4
ME 100	Mech Engrg Orientation and Anal	2
ME 103	Intro Graphics Science	2
ME 105	Comp Meth in Mech Engrg	2
		16

Second Semester

Dept. No.	Course	Cr.
Eng 101	Ideas and Expressions II	3
Hist 101	World Civilization II	3
Math 132	Calculus II	4
ME 226	Manufact Processes	2
ME 236	Manufact Processes Lab	1
Chem 101	Gen Chemistry I	3
Chem 111	Gen Chemistry I Lab	1
		17

Sophomore Year

First Semester

Dept. No.	Course	Cr.
1E	210 Comp Methods in Engrg	2
ME	335 Mechanics I, Statics	3
Phys	221 Gen Physics I	3
Phys	231 Gen Physics I Lab	2
Math	231 Calculus III	4
Hum	200 Survey of Humanities I	3
		<u>17</u>

Second Semester

Dept. No.	Course	Cr.
ME	336 Strength of Materials	3
ME	337 Mechanics II, Dynamics	3
ME	360 Materials Science	3
ME	346 Material Testing Lab	1
Phys	222 General Physics II	3
Phys	232 General Physics II Lab	2
		<u>15</u>

Junior Year

First Semester

Dept. No.	Course	Cr.
ME	416 Fluid Mechanics	3
ME	440 Kinematics	3
ME	441 Thermodynamics I	3
ME	426 Fluid Mechanics Lab	1
EE	441 Basic Electrical Engineering	3
EE	447 Basic Electrical Engineering Lab	1
Math	331 Intro Applied Math I	3
		<u>17</u>

Second Semester

Dept. No.	Course	Cr.
ME	442 Thermodynamics II	3
ME	564 Machine Design I	3
ME	562 Heat and Mass Transfer	3
ME	579 Thermal Science Lab	1
EE	442 Basic Electrical Engineering II	3
EE	448 Basic Electrical Engrg II Lab	1
Math	332 Intro Applied Math II	3
		<u>17</u>

Senior Year

First Semester

Dept. No.	Course	Cr.
Econ	301 Prin Econ Macro	3
ME	565 Machine Design II	3
ME	560 Metals, Ceramics and Polymers	2
ME	569 Metals, Ceramics and Polymers Lab	1
	Electives	8
		<u>17</u>

Second Semester

Dept. No.	Course	Cr.
ME	574 Mechanical Systems Analysis	3
	Electives	9
1E	460 Engineering Economic Analysis	2
		<u>14</u>

Total hours—130

Elective Credit Hours—

- 9 Technical Electives, 6 of which must be from Optional Block
- 6 Humanities—Social Science
- 2 Free Electives

OPTIONAL BLOCK

Energy Conversion Option

Dept. No.	Course	Cr.
ME	540 Dynamics of ME Systems	3
ME	567 Environmental Control	3
ME	563 Energy Conversion	3
ME	568 Gas Dynamics	3
ME	570 Internal Combustion Engines	3
ME	571 Turbomachinery	3
ME	575 Solar Energy	3
ME	.603 Statistical Thermodynamics	3
ME	.609 Advanced Fluid Dynamics	3

Machine Design Option

Dept. No.	Course	Cr.
ME	510 Computer-Aided Graphics and Design	3
ME	540 Dynamics of ME Systems	3
	.602 Advcd Strength of Materials	3
	.614 Mechanics of Engrg Modeling	3
	.624 Mechanical Vibrations	3
	.688 Experimental Stress Analysis	3

Manufacturing and Materials

Dept. No.	Course	Cr.
ME	510 Computer-Aided Graphics and Design	3
	.675 Theories of Machining Processes	3
	.676 Tools, Jigs, and Fixtures Design	3
	.680 Numerical Control in Manufacturing	3
	.682 Materials Forming	3
	.683 Materials Joining	3
	.685 Mech Props and Struct of Solids	3
1E	678 Engineering Management	3

DIRECTORY OF FACULTY AND COURSES

Mechanical Engineering

Vishnu Sarma Avva (Avva V. Sharma), B.S., Saugor University; D.M.I.T., Madras Institute of Technology; M.S., Oklahoma State University; Ph.D., Pennsylvania State University; Professor

Botros M. Botros, B.S., Alexandria University; M. Eng'g, Ph.D., Sheffield University; Professor (P.E.)*

Herbert C. Braun, M.E., Stevens Inst. of Technology; Adjunct Instructor

Suresh Chandra, B.Sc., Allahabad University; B.Sc. (Ch.E.), Banaras Hindu University; M.Ch.E., University of Louisville; Ph.D., Colorado State University; Professor and Dean

Rajinder S. Chauhan, B.S., G. N. Engineering College; M. Tech., Indian Institute of Technology; Ph.D., Auburn University; Assistant Professor

William J. Craft, B.S., North Carolina State University; M.S., Ph.D., Clemson University; Professor and Associate Dean (P.E.)

*(C Mfg E)

George J. Filatovs, B.S., Washington University at St. Louis; Ph.D., University of Missouri at Rolla; Professor

D. Y. Goswami, B.S., Delhi University; M.S., Ph.D., Auburn University; Associate Professor (P.E.)

Amin M. Haque, B.S., Rajshahi University; M.S., Dacca University; M.S. and D.I.C., Imperial College; Ph.D., University of York; Adjunct Associate Professor

David E. Klett, B.S., Michigan State University; M.S., Ph.D., University of Florida; Professor (P.E.)

Chih Hwa Li, B.S., Chiao Tung University; M.S., University of Michigan; Associate Professor

Tony C. Min, B.S., Chiao Tung University; M.S., University of Tennessee; Ph.D., University of Tennessee; Professor and Chairperson (P.E.)

W. Christopher Musselwhite, B.S., N. C. State University; M.A., West Virginia University; M.S., N. C. A. & T. State University; Adjunct Assistant Professor

Samuel P. Owusu-Ofori, B.S., University of Science and Technology; M.S., Bradley University; Ph.D., University of Wisconsin; Assistant Professor

Hemen Ray, B.E., University of Calcutta; M.S., University of Wisconsin; Ph.D., University of Wisconsin; Assistant Professor

Jagannathan Sankar, B.Eng., University of Madras; M.Eng., Concordia University; Ph.D., Lehigh University; Assistant Professor

Lonnie Sharpe, Jr., B.S., N. C. A. & T. State University; M.S., N. C. State University; Ph.D., University of Illinois; Assistant Professor

Horn-Sen Tzou, B.S., National Taiwan University; M.S., Purdue University; Ph.D., Purdue University; Assistant Professor

Mechanical Engineering Undergraduate Courses

- 100 Engineering Orientation and Analysis
- 101 Engineering Graphics I
- 102 Engineering Graphics II
- 103 Introduction to Graphics Science
- 105 Computation Methods in M.E.
- 226 Manufacturing Processes
- 236 Manufacturing Processes Laboratory
- 300 Plane Surveying
- 335 Mechanics I, Statics
- 336 Strength of Materials
- 337 Mechanics II, Dynamics
- 346 Material Testing Laboratory

360 Materials Science
 416 Fluid Mechanics
 426 Fluid Mechanics Laboratory
 440 Kinematics
 441 Thermodynamics I
 442 Thermodynamics II
 444 Undergraduate Projects
 510 Computer Aided Graphics and Design
 540 Dynamics of Mechanical Engineering Systems
 544 Special Topics
 560 Metals, Ceramics, and Polymers
 562 Heat and Mass Transfer
 563 Energy Conversion
 564 Machine Design I
 565 Machine Design II
 567 Environmental Control
 568 Gas Dynamics
 569 Metals, Ceramics and Polymers Laboratory
 570 Internal Combustion Engines
 571 Turbomachinery
 572 Mechanical Engineering Seminar I
 573 Mechanical Engineering Seminar II
 574 Mechanical Systems Analysis
 575 Solar Energy Fundamentals and Design
 579 Thermal Science Laboratory

Advanced Undergraduate/Graduate Courses

602 Advanced Strength of Materials
 603 Statistical Thermodynamics
 609 Advanced Fluid Dynamics
 614 Mechanics of Engineering Modeling
 624 Mechanical Vibrations
 642 Design by Finite Element Methods
 648 Numerical Analysis for Engineers
 656 Modern Composite Materials
 660 Selected Topics in Engineering
 666 Special Projects
 667 Intermediate Dynamics
 672 Theory of Elasticity
 675 Theories of Machining Processes
 676 Tools, Jigs, and Fixtures
 679 Mathematical Theory of Plasticity
 681 Numerical Control in Manufacturing
 682 Materials Forming
 683 Materials Joining
 685 Mechanical Properties and Structure of Solids
 688 Experimental Stress Analysis

Graduate Courses

708 Deformation Analysis in Metal Processing
 710 Boundary Layer Theory
 715 Continuum Mechanics
 728 Advanced Dynamics
 735 Heat Transfer I—Conduction
 736 Heat Transfer II—Radiation
 737 Heat Transfer III—Convection
 738 Irreversible Thermodynamics
 740 Machine Tool Design
 742 Mechanical Properties and Theories of Failure
 743 Energy Methods in Applied Mechanics
 746 Phase Equilibria
 748 Advanced Theory of Elasticity
 750 Theory of Elastic Stability
 757 Physical Metallurgy of Industrial Alloys
 762 Advanced Thermodynamics and Mass Transport
 777 Thesis
 778 Theory of Vibrations
 780 Mechanical Metallurgy
 788 Research
 789 Special Topics

Course descriptions are available upon request from the Dean of the School.



THE SCHOOL OF NURSING

Marietta C. Raines, Dean

The School of Nursing offers a program leading to the Bachelor of Science Degree in Nursing. The school is organized into lower and upper divisions. The first two academic years or lower division of the program encompass the core requirements of the University and the foundation courses for the major. The upper division or last two academic years is largely devoted to Nursing Courses.

PHILOSOPHY AND OBJECTIVES

The School of Nursing is an integral part of North Carolina Agricultural and Technical State University and adheres to the purpose and objectives of the University. The School subscribes to the principles and theories that describe and predict man's behavior.

The faculty believes that man is a biopsychosocial, spiritual being who is continuously developing and adapting. He has the potential for growth and maturity through his capacity to interact with others and the environment. Man is an active participant in society with the ability to maintain himself while undergoing continuous change. The nursing program is based on the faculty's beliefs concerning man and his intrinsic worth. Our participation through nursing education is in the preparation of the student to assist the individual in making his maximum contribution to society.

The faculty believes that society is a dynamic structure which is culturally diverse and consists of individuals, families and communities, with the family as the basic unit.

We believe health is an ever-changing phenomena which is defined by society's cultural values, assumptions and attitudes. Health is viewed on a health-illness continuum, and individual life styles greatly influence one's position on this continuum. Every individual has the right to utilize internal and external resources to maintain an optimum

level of health. Nursing has a primary responsibility to facilitate the attainment and maintenance of this goal.

Education is a continuous process providing the learner with opportunities for personal growth and the acquisition of insight into the nature of self and man. Education prepares the learner for humanistic and professional endeavors in a dynamic society.

We believe that nursing education is a systematic process whereby the learner engages in critical thinking and applies scientific theories, principles, and concepts to nursing. Nursing education addresses man, society, and the culture of the individual in moving him toward a state of health.

We believe that the person prepared to render professional nursing care utilizes knowledge, understanding, and skills derived from the biological, psychological, sociocultural and humanities areas of study in assessing and making judgment. We further believe that the person prepared to render professional nursing care has the responsibility for teaching the individual, the family and community, for health promotion, illness prevention, and health restoration.

The faculty believes that nursing is an essential profession, sensitive, accountable and responsive to the changing health needs of society. Thus, professional functions will be altered, extended, and developed within the various nursing roles. The methodology of nursing is the nursing process, and entails independent, interdependent, and dependent actions which contribute to the health and well-being of individuals, families and communities.

We further believe that the person prepared in this program to render professional nursing care has the foundation to pursue graduate education.

The objectives of the Nursing Program at North Carolina Agricultural and Technical State University are designed to provide learning experiences that will assist nursing students to:

1. Integrate knowledge from liberal arts and the sciences as a foundation for nursing practice.
2. Fulfill the functions and responsibilities of the professional nurse.

3. Continue professional and personal development.

At the completion of this program the graduate will be able to:

1. Recognize the basic needs of man and the relationship of these needs to his behavior in the prevention of illness, promotion of wellness and in the movement toward self-actualization.
2. Utilize concepts, principles and theories from natural and behavioral sciences, and nursing to analyze and solve health care problems of individuals, families and communities.
3. Demonstrate the ability to think critically and make decisions utilizing the nursing process as the methodology for the practice of nursing.
4. Recognize contributions of nursing research and apply findings to nursing practice.
5. Accept responsibility and accountability for professional nursing actions.
6. Practice the roles of learner, practitioner, teacher, collaborator, leader, and patient advocate in the delivery of professional nursing service.
7. Apply principles of teaching and learning in the promotion of health care.
8. Act as a change agent within the health care system to promote health within a culturally diverse society.
9. Recognize the need for continuous study and assume responsibility for personal and professional development.

ACCREDITATION AND MEMBERSHIPS

The program offered by the School of Nursing is accredited by The North Carolina Board of Nursing and the National League for Nursing. The School of Nursing is an agency member of the National League for Nursing in the NLN Council of Baccalaureate and Higher Degree Programs, the American Association of Colleges of Nursing and the Southern Regional Education Board Council on Collegiate Education for Nursing.

GENERAL PROGRAM REQUIREMENTS

The area of general program requirements include general information, admission, progression and graduation requirements.

General Information

Nursing Majors are required to purchase uniforms for the Spring Semester of the Sophomore Year. The Estimated Cost is (\$115.00) one hundred and fifteen dollars. Beginning in the Sophomore Year, students are required to secure liability insurance through the School of Nursing.

Learning experiences are provided in a variety of health care agencies. Students will provide their own transportation in Greensboro and Guilford County.

Students are required to attend all nursing classes with absences permitted only in unusual circumstances. Make up time lost during clinical nursing practice experiences will be left to the discretion of the faculty.

A minimum of 126 credit hours is required for graduation with a Bachelor of Science in Nursing. A minimum of 36 credit hours must be earned at North Carolina Agricultural and Technical State University.

Graduates of the Nursing Program are eligible for admission to the North Carolina State Licensure Examination.

Admission Criteria for Freshmen—Students

- A. The Applicant must be a graduate of an accredited high school having completed sixteen units of credit, and
 1. have a combined Scholastic Aptitude Test Score of 750 or above, or
 2. achieve a cumulative average of "B" or better.
- B. Admission into the nursing major will depend upon the completion of the following courses or equivalent courses with a grade of "C" or a 2.0 in each course:

Chemistry 104, 105, 114,	
115	8 hrs.
Mathematics 101, 102	6 hrs.
General Zoology 160	4 hrs.
Ideas and Their	
Expressions 100, 101	6 hrs.

- C. Students seeking transfer into the nursing major must provide evidence of having completed the above courses maintaining a 2.0 or better, and a cumulative average of at least 2.0.

Progression Requirements

- A. Courses in the nursing major must be completed in the sequence of the designed curriculum.
- B. All science courses required in the nursing major must be completed with achievement of at least a 2.0 grade point for each.
- C. Each nursing course must be completed with a grade point of at least 2.6.
- D. A second failure in the nursing major will prevent continuing in the nursing program for any enrolled nursing student.

Graduation Requirements

- A. The completion of all courses with a cumulative grade point average of not less than 2.6.
- B. Successful passing of a comprehensive examination in nursing.

CAREER OPPORTUNITIES

The Bachelor of Science Degree in Nursing when accompanied by nursing licensure prepares the graduate for first level employment positions in a variety of nursing settings. Some possible opportunities include, institutional (hospitals), public health agencies, clinics, military services and private practice.

SUGGESTED CURRICULUM GUIDE FOR A NURSING MAJOR

Freshman Year

<i>First Semester</i>	Credit
101 Freshman Mathematics	3
100 Ideas & Their Expressions	3
104 General Chemistry	3
114 General Chemistry Lab.	1
160 General Zoology	4
100 Nursing Orientation	1
101 Physical Education	1
or	
200 Personal Hygiene	2
	16-17

<i>Second Semester</i>	Credit
102 Freshman Mathematics	3
101 Ideas & Their Expressions	3
105 General Chemistry	3
115 General Chemistry Lab.	1
121 General Microbiology	4
102 Physical Education	1
	15

Sophomore Year

<i>First Semester</i>	Credit
100 Western Civilization	3
200 Humanities	3
320 General Psychology	3
461 Human Anatomy & Physiology	4
200 Perspectives of the Nursing Profession I	1
201 Nursing Competency Lab I	1
	15

<i>Second Semester</i>	Credit
101 Western Civilization	3
201 Humanities	3
100 Principles of Sociology	3
337 Nutrition & Dietetics	3
210 Perspectives of the Nursing Profession II	3
211 Nursing Competency Lab. II	2
	17

Junior Year

<i>First Semester</i>	Credit
300 Health Needs of the Nuclear Family	5
301 Nursing Competency Lab. III	1
302 Nursing Practice I	4
250 Speech Fundamentals	2
Electives (Behavioral Sciences)	3
	15

<i>Second Semester</i>	Credit
310 Pathophysical Needs of Man I	5
311 Nursing Competency Lab. IV	1
312 Nursing Practice II	4
434 Abnormal Psychology	3
Electives (Behavioral Sciences)	3
	16

Senior Year

<i>First Semester</i>	Credit
400 Pathophysical Needs of Man II	6
401 Nursing Practice III	6
Electives	3
	15

<i>Second Semester</i>	Credit
410 Psychosocial Needs of Families	6
411 Nursing Practice IV	6
563 Nursing Seminar	2
Electives	3
	<hr/> 17

DIRECTORY OF FACULTY AND COURSES

Faculty

Marietta C. Raines, Diploma, R.N., St. Agnes School of Nursing; B.S., M.A., Teachers College Columbia University; Professor and Dean

Virginia Armentrout, Diploma, R.N., Kings County Hospital Center; B.S., R.N., Syracuse University; M.S., University of North Carolina School of Public Health at Chapel Hill; Ed.D., University of North Carolina at Greensboro; Assistant Professor

Dorothy Burns, A.D., R.N., Brooklyn College; B.S., North Carolina A. and T. State University; M.S., University of North Carolina at Greensboro; Assistant Professor

Carole J. Clark, Diploma, R.N., St. Alexis Hospital School of Nursing; B.S., University of North Carolina at Greensboro; M.S., University of North Carolina at Greensboro; Assistant Professor

Jo Ann Covington, Diploma, R.N., Kate Bitting Reynolds School of Nursing; B.S., Psychology, North Carolina A. & T. State University; B.S., Nursing, North Carolina A. & T. State University; M.P.H., University of North Carolina School of Public Health at Chapel Hill; Instructor

Charlotte Dailey, Diploma, R.N., Grasslands School of Nursing; B.S., San Jose College; M.P.H., University of North Carolina School of Public Health at Chapel Hill; Assistant Professor

Tiney H. Garrison, Diploma, R.N., Good Samaritan Hospital School of Nursing; B.S., North Carolina College; Instructor

Sandra Hicks, B.S., R.N., North Carolina A. and T. State University; M.S., Medical College of Georgia; Assistant Professor

Junia A. Jenkins, Diploma, R.N., Hampton Training School of Nursing; B.S., North Carolina College; M.S., Boston University; Assistant Professor

Marie Martin, B.S., R.N., North Carolina A. and T. State University; B.S., North Carolina Central University; M.P.H., University of North Carolina School of Public Health at Chapel Hill; Assistant Professor

Levonina McCoy, B.S., R.N., North Carolina A. and T. State University; M.S., University of North Carolina at Greensboro; Assistant Professor

Helen B. McCullough, Diploma, R.N., St. Agnes School of Nursing; B.S., St. Augustine's College; M.S., North Carolina A. and T. State University; M.S.Ed., North Carolina A. and T. State University; Associate Professor

Patricia J. Price, B.S., R.N., Winston-Salem State University; M.S., University of North Carolina at Chapel Hill; M.S.Ed., North Carolina A. and T. State University; Associate Professor

Sharon Rankin, B.S., R.N., North Carolina A. and T. State University; M.S., University of North Carolina at Greensboro; Instructor

Patricia Shelton, B.S., R.N., North Carolina A. and T. State University; M.S., University of North Carolina at Greensboro; Instructor

Carrie H. Walden, Diploma, R.N., St. Agnes School of Nursing; B.S., St. Augustine's College; M.A., New York University; Associate Professor

Margaret C. Warren, B.S., R.N., North Carolina A. and T. State University; M.S., University of Maryland; Associate Professor

Courses

100 Nursing Orientation

200 Perspectives of the Nursing Profession I

201 Nursing Competency Lab I

210 Perspectives of the Nursing Profession II

211 Nursing Competency Lab II

300 Health Needs of the Nuclear Family

301 Nursing Competency Lab III

302 Nursing Practice I

310 Pathophysical Needs of Man I

311 Nursing Competency Lab IV

312 Nursing Practice II

400 Pathophysical Needs of Man II

401 Nursing Practice III

410 Psychosocial Needs of Families

411 Nursing Practice IV

500 Human Sexuality

501 Dimensions of Death Education

563 Nursing Seminar

Course descriptions are available upon request from the Dean of the School.



The Learning Assistance Center

Alfonso E. Gore, Director

OBJECTIVES

The objectives of the Learning Assistance Center are to provide opportunity for underprepared students to: (1) achieve competence in communication skills during the freshman year in reading, writing, speaking and listening through a comprehensive, personalized instruction program. These students may advance at their own rate of speed through a carefully tailored series of educational experiences under the tutelage of their mentors; (2) achieve competence in computational skills during the freshman year in basic college mathematics by subjecting themselves to a series of remedial, computational, and problem-solving experiences that are structured and monitored by faculty to insure skill development. Students will be permitted to work cooperatively and independently and proceed at their own rate until mastery of computational skills has been achieved and realized by the student. Students in the freshman class will be taught collectively and/or individually how to study and succeed in a college program. Basic Concepts of studying will be taught, such as budgeting one's time, how to study for examinations, how to organize and take notes, and the psychology of taking tests and passing them in various disciplines.

DIRECTORY OF FACULTY AND COURSES

Faculty

Alfonso E. Gore, B.S., Bluefield State College; M.S., West Virginia University; C.A.G.S., Boston University; Ed.D., Boston University
Valencia Coviell, B.S., M.S., North Carolina A & T State University
Mattie J. Dalton, B.S., Shaw University
Anne Floyd, B.S., University of North Carolina at Greensboro; M.S., North Carolina A & T State University

Barbara Hill, B.A., North Carolina Central University; M.Ed., University of North Carolina at Greensboro

Brenda Hodge, B.A., North Carolina Central University; M.Ed., University of North Carolina at Greensboro

Julia Kendall, B.S., M.S., North Carolina A & T State University

Laura L. McMillan, B.S., North Carolina A. & T. State University

Carl Manuel, B.A., Johnson C. Smith University; M.Ed., University of Illinois

Linda Marsh, B.S., M.S., North Carolina A & T State University
Patricia Shelton, B.S., M.S., North Carolina A & T State University
Myrtle Soloman, B.S., M.A., North Carolina A & T State University

Courses

099 Basic Reading and Writing Skills
100 Intermediate Mathematics
100 Orientation

Course descriptions are available upon request from the Director of the Learning Assistance Center.





Department of Military Science

Lt. Col. Willie R. Skinner, Professor

OBJECTIVE

The objective of the Army Reserve Officers' Training Corps (ROTC) is to train, motivate and prepare selected students with potential to serve as commissioned officers in the Regular Army, Army Reserve or the Army National Guard. The program is designed to provide an understanding of the fundamental concepts and principles of military art and science and to develop leadership and managerial potential in the student. A strong sense of personal integrity, honor, and individual responsibility and an appreciation of the requirements for national security is instilled in all students. Attainment of these objectives will prepare students for commissioning and will establish a sound basis for their future professional development and effective performance in the Army.

DEGREES OFFERED

Leads towards a commission in the United States Army.

GENERAL PROGRAM REQUIREMENTS

The ROTC program is divided into a basic course, which is normally taken during the freshman and sophomore years, and an advanced course, which is taken during the next two years. The admission of students to the ROTC program is based upon general admission requirements of the University as pertaining to a full-time student.

DEPARTMENT REQUIREMENTS

Programs of instruction for the Army ROTC include a four-year program and a two-year program. The four-year program consists of the two-year basic course, the two-year advanced course, and the Advanced ROTC Summer Camp. The two-year

program encompasses a Basic ROTC Summer Camp, the two-year advanced course and the Advanced Summer Camp.

Basic Course: The basic course is designed to introduce the student to basic military concepts and the organization and mission of the U. S. Army. Those students who successfully complete this course are eligible to enter into the advanced course.

Credit for the basic course can be obtained by successfully completing Military Science 101, 102, 201, 202 and a leadership laboratory must be taken concurrently each semester with the class. Prior service in the Armed Forces can be used to obtain appropriate credit for the basic course.

Advanced Course: The advanced course is designed to produce officers for the active Army as well as the Reserve Components. Entry into the advanced course is on a best qualified basis. The student must possess qualifications for becoming an effective Army officer. Applicants must attain a certain minimum score on the Cadet Evaluation Battery to determine academic potential. The applicants must have a minimum of two years of academic work remaining at the educational institution in a curriculum leading to either a baccalaureate or advanced degree in a recognized academic field of study. In addition, each student must successfully complete an Advanced Summer Camp of at least six weeks. Applicants must also pass an Army medical examination. The following courses are required for completion of the advanced course: Military Science 301, 302, 401, 402 and a leadership laboratory must be taken each semester.

Two Year Program: This program is designed for junior college students or sophomores at four-year institutions who have not taken ROTC. A basic six-week summer training period after the sophomore year takes the place of the basic course required of students in the traditional four-year program. When a student with two years of college has successfully completed the basic summer training, he is eligible for the advanced ROTC course in his junior and senior years. The advanced course, which leads to an officer commission, is the same for students in either the four-year program or the two-year program.

CAREER OPPORTUNITIES

Successful completion of the ROTC program qualifies a student for a commission as a Second Lieutenant in one of the following branches of the Army: Adjutant General's Corps, Armor, Infantry, Military Police Corps, Ordnance Corps, Quartermaster Corps, Signal Corps, Medical Service Corps, Corps of Engineers, Finance Corps, Transportation Corps and Army Nurse Corps. Special requirements and/or additional training is required for commissioning in the Medical Corps, Army Medical Specialist and the Veterinarian Corps.

FINANCIAL AID

A subsistence fee of \$100.00 per month is paid advanced course and scholarship cadets during the entire normal academic year while a member of the Army ROTC. Four, three and two year scholarships are available. Details on scholarships are published by the Department of the Army and by the Military Science Department. In addition to subsistence fee, the Army pays tuition, laboratory fees, book cost and certain supplies.

DIRECTORY OF FACULTY AND COURSES

Willie R. Skinner, LTC, IN, BS, North Carolina A.&T. State University;
M.S., Troy State University
Warren F. Coppedge, MAJ, TC, B.A.,
Norfolk State College; M.S., Florida
Institute of Technology
Jesse J. Hinton, Jr., MAJ, IN, APMS.
B.A., Fayetteville State University;
M.A., Webster College
Darryl D. Magee, MAJ, IN, B.S.,
United States Military Academy
John H. Bullock, Jr., CPT, AR, APMS,
B.S., North Carolina A&T State
University
Arthur G. Crawford, CPT, SC, B.A.,
Fort Valley State College
Charles D. Hawkins, CPT, MPC,
APMS. B.S., Ohio State University;
M.S., Troy State University
Perry Kissam, CPT, AR, APMS. A.A.,
Southeastern Community College;
B.A., Park College

Courses in Military Science (MS)

- 101 Introduction to the Citizen/
Soldier
- 102 Introduction to United States
Military Forces in Support of
National Defense
- 105 Leadership Laboratory*
- 201 Branches of the Army and
Leadership Principles
- 202 Map Reading Skill Development
- 205 Leadership Laboratory*

- 301 Introduction to Military Team
Theory
- 302 Leadership Training
- 304 Leadership Laboratory*
- 401 Seminars in Leadership and
Professional Development
- 402 Advanced Military Team Theory
and Active Duty Orientation
- 405 Leadership Laboratory*
- 105 Leadership Laboratory*
- 206 Army ROTC Basic Camp*
(Internship Program)

- 306 Army ROTC Advanced Camp*
(Internship Program)
- 406 Airborne Training*+
(Internship Program)

** Denotes Pass/Fail rather than a letter grade
and must be taken every semester.
+ Optional training on a selected basis.*

*Course descriptions are available upon
request from the Professor of Military
Science.*



Department of Aerospace Studies

Lt. Col. Tate P. Williams, Professor

OBJECTIVE

The United States Air Force maintains a permanent Air Force Reserve Officers Training Corps at this institution for the purpose of conducting leadership training, military training, and flight training. The specific objective is to conduct a modern academic program keyed to the development of the Professional Officer. This program is offered in two divisions. The lower division for Freshmen and Sophomores is termed the General Military Course. The upper division, established as the Professional Officer Course, is designed to continue the training of Juniors and Seniors so as to provide a complete four-year officer preparatory program. The entire Aerospace Studies curriculum is designed to commission quality young men and women who are not only educated in the academics of their university, but who have a competency in certain military skills, and a strong motivation for active duty and an Air Force Career.

PROGRAM OF INSTRUCTION

General Military Course (GMC). This course is open to freshmen and sophomores and is designed to provide the student with a basic foundation in the history and development of air power and the organization and mission of the U.S. Air Force. Those students who successfully complete this course are eligible to attend Field Training and to enroll in the Professional Officer Course (discussed below).

Field Training. AFROTC Field Training is offered during the summer months at selected Air Force bases throughout the United States. Students in the four-year program participate in four weeks of Field Training during the summer, usually between their sophomore and junior year. The major areas of study in the four-week Field Training program

include junior officer training, aircraft and aircrew orientation, career orientation, survival training, base functions and Air Force environment, and physical training.

Students applying for entry into the two-year program must successfully complete six weeks of Field Training prior to enrollment in AFROTC. Application for the two year program must be made during the Fall (or early Spring) Semester of the sophomore year. The major areas of study included in the six-week Field Training program are essentially the same as those conducted at four-week Field Training and in the General Military Course, including Leadership Laboratory.

Professional Officer Course (POC). Entry into the Professional Officer Course is competitive in nature. Applicants must attain a certain minimum score on the Weighted POC Selection System (WPSS). WPSS is a selection system that uses a number of weighted factors. Included in the factors are cumulative grade point average, scholastic aptitude test scores, Air Force Officer Qualifying Test scores, and Detachment Commander's Rating (DCR). Applicants must also pass an Air Force medical examination. The first year of the POC is a study of management and leadership. The final year deals with the formulation and implementation of American Defense Policy and the Military Law System.

Leadership Laboratory. Leadership Laboratory is taken an average of one hour per week throughout the student's four years of enrollment in AFROTC. Two-year program students participate while in the Professional Officer Course. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential and management skills. Leadership Laboratory involves a study of Air Force customs and courtesies; drill and ceremonies; career opportunities in the Air Force; and the life and work of an Air Force Junior Officer. Students develop their leadership potential and management skills, in a practical supervised laboratory, which typically includes field trips to Air Force installations throughout the U.S.

UNIFORMS AND EQUIPMENT

All regularly enrolled cadets of the Air Force ROTC are furnished cost-free, Air Force ROTC uniforms, equipment, and textbooks. A deposit of ten dollars (\$10.00) is required of all cadets at the time of registration as security for clothing and equipment. This fee will be refunded upon return of all items issued. Each cadet is responsible for the maintenance and security of property. All property issued, must be returned at the end of the normal school year or upon withdrawal from school.

TRANSFER CREDIT

Transfer credit is permitted cadets entering the Air Force ROTC, from another advanced ROTC program (Air Force, Army or Navy), at any college, university or academy.

FINANCIAL AID

A subsistence fee of \$100.00 per month is paid advanced cadets (juniors and seniors) during the entire normal academic year while a member of the Air Force ROTC.

Scholarships may be granted for periods of two, two and one half, three, three and one half, and four years. Details on scholarships will be published by the Department of the Air Force and by the Department of Aerospace Studies, N.C. A&T State University. All students on scholarship receive \$100.00 per month tax-free allowance and the Air Force pays tuition, laboratory fees and book costs.

STRUCTURE OF THE CADET GROUP

The Air Force ROTC Cadet Group, commanded by a Cadet Lieutenant Colonel, consists of two squadrons. Within the structure of this Group are such special functions as: The Cadet Drill Team, Arnold Air Society and Angel Flight.

SPECIAL HONORS

Outstanding performance in the Air Force ROTC Training Program, on the part of certain selected cadets can bestow on them the honor of Distinguished Graduate. Other honors are the Commandant's Award and the Vice-Commandant's Award.

CADET WELFARE FUND

All AFROTC Cadets are members of the Cadet Welfare Fund. A membership fee of \$5.00 is charged payable at initial registration each year. These fees are used to defray expenses for various cadet social activities.

AIR FORCE ROTC OFFICER CLUB

The Cadet Officers Club provides advanced cadets with an opportunity to demonstrate organizational leadership ability and to promote social and cultural activities. Each advanced (POC) cadet is requested to become a member of the club and is obligated to pay club dues. The amount of the dues will be determined by club members each school year.

DIRECTORY OF FACULTY AND COURSES

Faculty

Lt. Col. Tate P. Williams, B.S., North Carolina A&T State University; M.S., University of Oklahoma
George M. Sledge, B.S., Tuskegee Institute; M.A., University of Oklahoma; Assistant Professor
Daniel A. McFadgen, B.S., North Carolina A&T State University; M.A., Webster College; Assistant Professor
Larry D. Spicer, B.S., Troy State University; M.A., Central Michigan University; Assistant Professor

Courses

101 The US Air Force Today I
102 Leadership Laboratory
103 The US Air Force Today II
104 Leadership Laboratory

201 The Development of Air Power I
202 Leadership Laboratory
203 The Development of Air Power II
204 Leadership Laboratory
401 Air Force Leadership and Management I
402 Leadership Laboratory
403 Air Force Leadership and Management II
404 Leadership Laboratory
501 National Security Forces in Contemporary American Society I
502 Leadership Laboratory
503 National Security Forces In Contemporary American Society II
504 Leadership Laboratory
505 Flight Training—Ground School
506 Flight Training—Flying

Course descriptions are available upon request from the Professor of Aerospace Studies.



THE GRADUATE SCHOOL

Albert W. Spruill, Dean

Graduate education at North Carolina Agricultural and Technical State University was authorized by the North Carolina State Legislature in 1939. The authorization provided for graduate training in agriculture, applied science and allied areas of study. An extension of the graduate program, approved by the General Assembly of North Carolina in 1957, provided for enlargement of the program to include teacher education as well as such other programs of a professional or occupational nature as might be approved by the State Board of Higher Education.

OBJECTIVES OF THE GRADUATE SCHOOL

The Graduate School of North Carolina Agricultural and Technical State University offers advanced study for qualified individuals who wish to improve their competence for careers in professions related to agriculture, applied science, education, science research, technology, the humanities and the social sciences. Such study of information and techniques is provided through courses of study leading to the Master of Science degree and through institutes, workshops, and individual courses designed for those who are not candidates for a higher degree but who desire advanced work in certain fields of study. Second, the Graduate School provides the foundation of knowledge and of techniques required for those who wish to continue their education in doctoral programs at other institutions. Third, the Graduate School assumes the responsibility of stimulating and encouraging scholarly research among students and faculty members.

It is expected that, in the course of their studies, graduate students (1) will have acquired special competence in at least one field of knowledge; (2) will have developed further their ability to think independently and constructively; and (3) will have

developed and demonstrated the ability to collect, organize, evaluate, and report facts which will enable them to make a contribution in their field of study.

DEGREES GRANTED

The Graduate School of North Carolina A&T State University offers the following degrees:

MASTER OF ARTS

English and Afro-American Literature

MASTER OF SCIENCE

Adult Education

Agricultural Economics

A. Agricultural Marketing

B. Production Economics

C. Rural Development

Biology

Chemistry

Electrical Engineering

Engineering

Food and Nutrition

French

Industrial Engineering

Mechanical Engineering

Specialized Teaching and Related Fields

A. Administration, Supervision and Post-Secondary Education

(1) Administration

(2) Supervision

B. Agricultural Education

C. Educational Media

D. Elementary Education and Reading

(1) Early Childhood Education

(2) Elementary Education

(3) Intermediate Education

(4) Reading

E. Guidance or Counseling Education

(1) Agency Counseling

(2) Counselor—Education

(3) Human Resources

F. Industrial Education

(1) Industrial Arts Education

(2) Vocational Industrial Education

Specialized Secondary Education Teaching Fields with Majors in Subject Matter Departments

A. Art

B. Biology

C. Chemistry

D. English

E. History

F. Mathematics

G. Health and Physical Education

H. Social Science

* See Graduate School Bulletin for complete instructions.

ADMISSION TO GRADUATE SCHOOL

All applicants for graduate study must have earned a bachelor's degree from a four-year college. Application forms may be obtained from the office of the Graduate School and must be returned to that office with two transcripts of previous undergraduate and graduate studies. Processing of applications cannot be guaranteed unless they are received, with all supporting documents, in the Graduate Office at least fifteen days before a registration period. Applicants may be admitted to graduate studies unconditionally, provisionally, or as special students.

Unconditional Admission. To qualify for unconditional admission to graduate studies, an applicant must have earned an over-all average of 2.6 on a 4 point system (or 1.6 on a 3 point system) in his undergraduate studies. In addition, a student seeking a degree in Agricultural Education, Industrial Education, or Secondary Education must possess, or be qualified to possess, a Class A Teaching Certificate in the area in which he wishes to concentrate his graduate studies. A student seeking a degree with concentration in Administration and Supervision, Elementary Education, or Guidance must possess, or be qualified to possess a Class A Teaching Certificate.

Provisional Admission. An applicant may be admitted to graduate studies on a provisional basis if (1) he earned his baccalaureate degree from a non-accredited institution or (2) the record of his undergraduate preparation reveals deficiencies that can be removed near the beginning of his graduate study. A

student admitted provisionally may be required to pass examinations to demonstrate his knowledge in specified areas, to take special undergraduate courses to improve his background, or to demonstrate his competence for graduate work by earning no grades below "B" in his first nine hours of graduate work at this institution.

Special Students. Students not seeking a graduate degree at A&T State University may be admitted in order to take courses for self-improvement or for renewal of teaching certificates. If a student subsequently wishes to pursue a degree program, he must request an evaluation of his record. The Graduate School reserves the right to refuse to accept as credit for a degree program hours which the candidate earned while enrolled as a special student; in no circumstances may the student apply towards a degree program more than twelve semester hours earned as a special student.

Admission to Candidacy for a Degree. Admission to graduate studies does not guarantee admission to candidacy for a degree. In order to be qualified as a candidate for a degree, a student must have a minimum over-all average of 3.0 in at least nine semester hours of graduate work at the University, must have removed all deficiencies resulting from undergraduate preparation, and must have passed the Qualifying Essay. Some departments require additional qualifying examinations. For details, see the *Graduate School Bulletin*.

Credit Requirements: The minimum course requirements for a graduate degree are thirty semester hours for students in thesis programs and non-thesis programs. It is expected that a student can complete a program by studying full-time for an academic year and a summer or by studying full-time during four nine-week summer sessions. A graduate student normally carries twelve to fifteen semester hours each semester of an academic year. If he is teaching full-time, he may not pursue more

than six semester hours during the academic year. During the summer he may not earn more than one hour of credit for each week of residence. A student who does not complete his degree within six successive calendar years may lose credit for hours earned more than six years prior to his application for graduation.

Other Requirements. All students must pass a final comprehensive examination.

Fees. Fees for graduate students are listed in General Information section of this catalogue.

Financial Assistantships. A limited number of assistantships are available. These positions may require

teaching, laboratory supervision, research, or general assistance to a department or to a faculty member.

THE GRADUATE SCHOOL BULLETIN

General requirements for the Master's degree, curricula, course descriptions, and other information about graduate study will be found in the *Graduate School Bulletin*, which may be obtained from the Graduate Office.

For information write to: The Dean of the Graduate School, North Carolina Agricultural and Technical State University, Greensboro, N.C. 27411.



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BULLETIN OF NORTH CAROLINA AGRICULTURAL AND TECHNICAL
STATE UNIVERSITY 1984-85
1601 EAST MARKET STREET
GREENSBORO, NORTH CAROLINA 27411-0002

